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THE
PACIFIC RURAL PRESS
AND CALIFORNIA FRUIT BULLETIN.

Vol. LII. No. 1. SAN FRANCISCO, SATURDAY, JULY 4, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.

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The University Experiment Station near Paso Robles.

This Paper not to be taken from the Library.

The University of California, in addition to its central experiment station at Berkeley, has four well equipped culture stations for field, garden, orchard and vineyard crops and two additional ones for forestry experiments. This distribution of experiment stations is undertaken to secure the results of testing various plants and methods in the various climates and soils of California, which are so diverse that conclusions reached in one place may be unwarranted in another. In the reports which are issued from Berkeley, and sent free to all who apply for them to Professor Hilgard, are given the comparative results secured by the whole system of investigation and experiment.

MAIN BUILDING AT THE UNIVERSITY CULTURE STATION NEAR PASO ROBLES.

The upper engraving on this page gives a view of the experiment station building near Paso Robles. The station is established upon twenty acres of land donated to the University for this purpose by J. V. Webster. It is situated about one and one-half miles northeast of the town of Paso Robles. The immediate region receives usually a light rainfall and suffers wide extremes of cold and heat. It is therefore a good place for experiment to determine what can be successfully grown in the more trying locations in the Southern Coast Range region of California, but especially for the district removed from the modifying influences of the immediate coast. The cut shows the main building, erected by local subscriptions, and with the land presented to the university. The improvements consist of orchard and vineyard planting, experiment plots of cereals, grasses and other forage plants, collections of shade and ornamental trees, so far as funds have allowed their planting, and other interesting things which are entertaining and instructive to visitors. The foreman at Paso Robles station is Arnold V. Stubenrauch, who goes to the work after a course of several years' study at the University.

The lower engraving shows one of the resources of the Paso Robles station which is not the least interesting, and that is the group of Persian fat-tailed sheep introduced by the United States Department of Agriculture from Asia a few years ago. These sheep have mutton points which are highly esteemed abroad and some of the California sheep men are trying the effect of a Persian cross upon the common Merino. The results attained so far are promising. The State Fair will this year provide a separate class for the Persian sheep, so the foreigners are gaining recognition in high places. The small corner engraving shows the distinctive appendage from which this breed of sheep takes its name. It is said to be a cut of the carcass highly esteemed by epicures. It has also been claimed to act as a sort of storage battery of energy for the animal, for its size is increased by plenty and reduced by famine—the stored-up adipose of the tail being called upon to sustain the animal when, owing to uncertain seasons in an arid country, it might otherwise starve.

PERSIAN FAT-TAILED SHEEP AT PASO ROBLES CULTURE EXPERIMENT STATION.

A San Bernardino letter of June 26th tells of a new insect pest, the beetle *Seria fimbriata*, which is causing destruction by eating the foliage of the orchards. They are in such numbers that the fruit growers fear great losses from their ravages.

A dispatch from Orange, dated June 25, states that the best sale of oranges this season in that place has been made by Campbell Brothers. They sold their Valencia late oranges at 3½ cents per pound on the tree.

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Office, No. 220 Market St.; Elevator, No. 12 Front St., San Francisco, Cal.

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Advertising rates made known on application.

Any subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

Our latest forms go to press Wednesday evening.

Registered at S. F. Postoffice as second-class mail matter.

ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, July 4, 1896.

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The Week.

Weather and Crops.

The long spell of north winds in the interior valleys was broken at the close of last week, but not until its desiccation had tried the ripening grain severely in some localities, and the threshers are turning out a good deal of thin wheat. Harvesting is now on everywhere except in the late regions. Fruit is coming along rapidly and goes out of sight very fast. Nothing like the usual preparations for drying are oeing made this year, and the product promises to be quite as light as prophesied. The weather has favored the driers in the interior as quite a high temperature range is noted.

The following data for the week ending 5 A. M. Wednesday, July 1, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	....	51.90	46.33	25 17	62	48
Red Bluff	....	22.43	29.71	25.50	100	60
Sacramento	....	*	24.11	17.18	*	52
San Francisco	....	21.25	*	23.66	62	50
Fresno	....	8.18	14.67	9.32	104	56
San Luis Obispo	....	17.72	26.04	*	78	46
Los Angeles	....	9.35	16.11	18.26	76	54
San Diego	...	5.92	12.20	6 73	72	58
Yuma	....	88	3.01	3 07	108	66

* Indicates no record.

Experiment in Hemp Culture.

"Some months ago," says the Gridley *Herald*, "we announced the inauguration of a new industry for Butte county—and in fact California—in the growing of hemp by Norman S. Kirk. Mr. Kirk's ranch is about two miles east of Gridley and consists mainly of rich bottom lands. It has heretofore been devoted to grain, but this year Mr. Kirk, who is from Illinois, determined to try a more profitable crop. Two hundred acres were thoroughly plowed and cultivated and planted to hemp. It has made a marvelous growth and now stands, on an average, nine feet high; and by the time it is ready for cutting it will reach a height of fifteen feet. Mr. Kirk expects to cut the crop by harvesters, the plant then being left to cure in the field. When dry it will be hauled to the river or to a reservoir and there soaked until rotten, when the fiber is separated and shipped East for manufacture into hempen products. A large lot of machinery has been brought from the East for the purpose of breaking the hemp and is now being placed in position."

The Atherton Ostrich Ranch.

While the business of ostrich farming has not proved to be largely profitable in California, as was once hoped, it has not died out. Mr. Edward Atherton, whose place is near Anaheim, is still hopeful and proposes to pursue the experiment still further. Eleven chicks have recently been hatched at the ranch, and Mr. Atherton expects to hatch about fifty more. The cold weather was hard on the eggs, and the increase of chicks was below the normal average. Two years ago 130 birds were hatched. There are 71 large birds on the farm.

Ramie on a Large Scale.

An experiment in ramie culture on a large scale is being made in the lake region near Hanford. An area of 250 acres is being planted, thirty-five men being engaged in the work. For reasons which are not explained, this operation has been kept secret until recently, and even now it is not known who is backing the project.

The Dixon Experiment.

Readers of the RURAL PRESS will remember, no doubt, that the farmers about Dixon, Solano County, undertook last year a systematic experiment in sugar beet culture. They sent a committee to investigate the conditions of beet growing at Alvarado, Watsonville and elsewhere, and as a consequence of its report, about 100 farmers undertook to plant and cultivate an experimental beet crop, during the present season. The Dixon *Tribune* thus reports progress:

As was expected, the experiment will be a success with some farmers, while with a large number of others it will be a comparative failure, due to the varying cultivation and care bestowed upon the fields. Our farmers are not yet familiar with the methods of cultivation necessary to produce the best results, but if they have secured fair samples, which on analysis will give an idea of the capabilities of our soil and climate, they will have accomplished their object.

If the test is satisfactory, and we feel safe in predicting that it will be, they must then give serious attention and close study to the requirements of the beet in the way of cultivation to the end that quality and quantity shall both be secured.

In many patches the beets are straggling, showing that care was not taken in planting. The tendency of this where the soil is in good condition is to develop a beet too large for use at the factory. This fault is easily corrected, and after the first season there is not likely to be any further complaint on this score.

A more serious fault with the cultivation as it has been done in most of the experimental patches, lies in the fact that it is not deep enough. The soil should be mellow and loose as far down as the body of the beet extends. The most that has been done by a majority of the planters is to loosen the soil on the surface, leaving it below hard as adamant. The result of this is to cramp and dwarf the beet and force it above ground. The beet should develop entirely below ground, as there is no sugar in the sun-burned tops, and they are rejected by the factories.

It is probable that many planters will be discouraged and think that our section is not adapted for beet culture. This is not the case, but it will require time to overcome the natural difficulties and obstacles of an entirely new industry and it may require several seasons to do it. The sugar beet industry promises much for the future of Solano county and it must be made a success when it is demonstrated that a proper knowledge of cultivation is all that is required to develop it.

One Good Farmer's Method.

The Sonoma *Farmer* thus writes of the farming methods of Mr. L. L. Cannon on the old Clark ranch, midway between Santa Rosa and Petaluma:

Mr. L. L. Cannon will have about 240 acres of fine wheat, perhaps the best in the county, on the Clark ranch, the site of the old halfway house on the east road, between Santa Rosa and Petaluma. In filling his silo on the Two Rock ranch this year Mr. Cannon used about equal parts of oat and barley hay, cutting the latter pretty ripe. To this strong feed he will try the experiment of adding a ration of bran. After filling the silo he plowed the land and planted corn. Two or three rains since and favorable weather have given an exceptionally fine stand. Since cutting 80 acres for hay the wild oats have come along so nicely that Mr. Cannon will allow them to sow themselves for a volunteer crop. He intends to plant 80 acres to corn next year.

A Crop to Tie To.

Viewing the industry at close range, the Chino *Champion* believes the sugar beet to be a "thing to tie to." The *Champion* says:

The beet crop has its enemies, to be sure, but they are not, as a rule, as devastating or numerous as those of many other crops. And, moreover, frosts do not affect the plants, and when the frosty nights of the early spring come and the fruit grower is trembling for his crop, the beet grower feels perfectly secure. Drought during the early years of the industry was a thing to dread; now, however, it is known that, with moisture in the soil sufficient to germinate the seed and start the plant, they will take care of themselves, so far as moisture is concerned. The farmer will seek in vain for a crop absolutely free from any dangers; but, all in all, we know of no field or orchard crop that is as free from casualities as the sugar beet, or upon which the farmer can depend with as much assurance for some returns—if not a full crop. He is rarely left with nothing to show for his work.

Dairy Exhibits at the State Fair.

On page 388 of the RURAL of June 20 we gave the list of new awards provided for dairy products and appliances at this year's State Fair, so far as then determined by the State Board of Agriculture. We are now informed by Secretary Smith that, in addition to the awards then published, a premium of $25 is offered for the best display of condensed milk and cream and $25 for the best refrigerating machine for creamery use. The dairy display will be held under the supervision of the California Dairy Association, and S. E. Watson, secretary, will be superintendent. In this department the milk test of the competing dairy cows will be held each evening. Special awards, secured by the Dairy Association, will be added to those offered by the State Board already noted. The association will also secure an exhibit of dairy grasses and millstuffs from the different sections of the State. Only California dairy products will be eligible for premiums. The butter exhibit must be renewed weekly, at least, the superintendent assuming to dispose of the product for exhibitors at market price, thus preventing loss. In judging as to merit of butter and cheese, samples will be taken in such a way that no information will be given as to the maker. In this exhibit the California Dairy Association is in no way interested, beyond securing a creditable display and in protecting each exhibitor from discrimination. The earnest help of butter and cheese makers is requested in making a great success of this attempt to advertise our dairy resources.

On a Prosperous Basis.

The "statistical situation" of the California wine industry grows steadily better for the producer, and there now seems no doubt that the good prices which prevailed last season will be fully maintained and possibly exceeded in the coming season. The following figures relative to supply and demand are believed to be approximately correct:

	Gallons.
Held by dealers May 31, 1893	4,550,000
Held in country (estimated)	10,050,000
Amount on hand May 31, 1893	15,050,000
Crop of 1893	23,000,000
Total	38,050,000
Consumption May 31, 1893, to May 31, 1893	17,000,000
Amount on hand May 31, 1894	21,050,000
Crop of 1894	13,000,000
Total	34,050,000
Consumption May 31, 1894, to May 31, 1895	17,000,000
Amount on hand May 31, 1895	17,050,000
Crop of 1895	10,000,000
Total	27,050,000
Consumption May 31, 1895, to May 31, 1896	17,000,000
On hand May 31, 1896	10,050,000

It is assumed that the cousumption from May 31st to November 30th will be 8,500,000 gallons, which would leave a surplus of only 1,550,000 gallons of dry wines. To this must be added the crop of this season, estimated at 7,000,000 gallons, making a total of 8,550,000 gallons. "Under these conditions," said a well-known wine man last Monday night, "prices will advance, and the demand will be checked, but even under these conditions it is doubtful if the supply will be anything like equal to the demand." The minimum price of wine obtained by the makers last year was 15 cents a gallon for ordinary and from 17½ to 20 cents for extra dry wines. Grapes are now selling at from $20 to $25 a ton, which is equivalent to 20 cents a gallon for the wine made from them.

Orange Men to Meet.

A dispatch from Los Angeles, of Monday (June 29th), says:

A majority of the committee of five that was selected last Friday at the Orange Growers' Association met this morning in the Chamber of Commerce to draft a call for a general convention of orange growers, which is to be held on July 10th. There were three out of the five in attendance, namely, Messrs. Briggs and Griffith of Azusa and Young of Duarte. They were unanimous in the belief that the coming convention would be beneficial, not alone to non-exchange members, but to the members of all fruit exchanges in southern California. The committee is drafting a call of some length which will explain the matter.

The Coming Orange Crop.

A dispatch from Los Angeles, written on Saturday last, says:

According to the statement of several leading fruit and commission merchants of this city, the fear that the coming year's orange crop will be small has no foundation. In many parts of the fruit belt trees are blooming more profusely than has been known in the last twelve years. There is always a certain percentage of young fruit which drops off at an early stage, and if this was not the case the fruit that reaches maturity would be of a very poor quality. The dropping off is natural and inures to the highest perfection of the product. The fall of fruit this year is much greater than usual, but the percentage that remains on the trees is also larger. One of the railway freight agents who investigated the matter states that unless something unexpected happens the crop will be the largest ever seen in southern California. Another agent who made an investigation states that in some sections the dropping off of fruit is much greater than in others, and that Mediterranean sweets and navels are the greatest sufferers. The phenomenon is accounted for by the unusual weather conditions which have prevailed throughout the past six months. During the winter extremes of heat and cold, together with light rainfall, conduced to the dropping off of fruit. The fact, however, that the trees are much fuller than usual is aslo attributed to weather conditions.

A Valuable Plant List.

We are indebted to Dr. F. Franceschi of Santa Barbara for a pamphlet with lists of over 1200 varieties of trees, shrubs, plants and flowers grown in that locality, which has just been issued by the Southern California Acclimatizing Association. An accurate statement of the native country of each plant, and of its degree of hardiness as compared with well-known staudards, is given. The nomenclature is that adopted at Kew Gardens. One of the most valuable features of the catalogue is a list of trees and shrubs standing drouth without irrigation, and those thriving under heavy sea winds.

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Valley Road Grain Rates.

A Substantial Cut as Compared With Southern Pacific Rates. The Latter Will Meet the Cut.

The Valley Railroad Co., through its traffic manager, has filed with the Railroad Commissioners a schedule of rates on grain and grain bags over the 82 miles of its line now completed. In his letter to the Commissioners the traffic manager explained that the company was not yet prepared to open its line for general business, but in order to satisfy the shippers now inquiring for rates he deemed it advisable to submit rates on grain and grain bags to the Railroad Commissioners in advance of the general tariffs, which have not yet been completed, and which will not be ready for issue until the company can approximate the date on which it will be practicable to announce that the company is properly equipped for business as a common carrier. The figures are as follows:

Rates for grain to Stockton, in cents, per ton of 2000 pounds, to apply to carload shipments not less than 24,000 pounds:

From Burnham, 11 miles	$0 60
From Escalon, 22 miles	0 90
From Clauston, 30 miles	1 10
From Empire, 34 miles	1 15
From Hughson, 37 miles	1 25
From Elmwood, 43 miles	1 40
From Merced, 67 miles	1 70
From Geneva, 76 miles	1 80
From Le Grand, 82 miles	1 85

These rates will include switching to all warehouses to which access is provided for the cars of this company.

Rates on grain bags (burlap) from Stockton, in cents, per ton of 2000 pounds, applicable to carloads not less than 24,000 pounds:

To Burnham	$0 75
To Escalon	1 10
To Clauston	1 20
To Merced	4 05
To Geneva	4 50
To Le Grand	4 65

It is stated at the office of the Valley Road that these rates are only made to accommodate such traffic as may be offered prior to the formal opening of the line for general business, and may or may not be the rates which will be fixed in the general tariffs of the company.

The grain rates established by the Valley Road are somewhat less than the rates at present charged by the Southern Pacific Company. Traffic Manager Moss used the new grain tariff adopted by the Railroad Commission as a basis of the rates he has established. There is only one station on the line of the new Valley Railroad, as far as it is now completed, where that road touches the line of the Southern Pacific, and that point is Merced. The rate adopted by the Railroad Commissioners from Merced to Stockton is $1.70 a ton. Traffic Manager Moss placed that rate in his grain schedule and used it as a basis on which to grade the rates from points intermediate and bayward. Thus from Merced the Valley Road has adopted the eight per cent reduction quoted in the tariff which the Southern Pacific Company is fighting in court, and from other points has fixed rates which are more than eight per cent less than the rates charged by the Southern Pacific Company for similar distances in the same territory. This will be seen by comparing the Valley Railroad's rates with the following:

Rates on grain, in cents, per ton of 2,000 pounds, from points on the Southern Pacific Company's line in the San Joaquin valley to Stockton:

From.	*Miles.*	*Old Rate Still in Effect.*	*Rate Fixed by Railroad Commission.*
Lathrop	9	$0 75	$0 70
Morrano	15	0 85	0 80
Ripon	20	0 95	0 85
Salida	23	1 15	1 05
Modesto	29	1 35	1 25
Ceres	34	1 45	1 35
Keyes	37	1 45	1 35
Turlock	42	1 60	1 45
Delhi	48	1 65	1 50
Livingston	52	1 65	1 50
Arena	55	1 70	1 55
Atwater	59	1 80	1 65
Merced	67	1 85	1 70
Lingard	73	1 85	1 70
Athlone	77	1 85	1 70
Minturn	83	1 95	1 80

The Valley Road announces that the grain rates include switching to all warehouses to which access is provided for the cars of the company. This concession means a still further saving to shippers of 15 cents per ton, for that is what the Southern Pacific Company collects for switching charges in the city of Stockton.

The rates on grain bags, as established by the Valley road, are considerably less than the rates charged by the Southern Pacific. The rate from Stockton to Merced, as established by Traffic Manager Moss, is $4.05 per ton on carloads. The Southern Pacific Company's rate between the same two points in carload lots is 30 cents per 100 pounds, or $6 per ton.

Meets the Cut.

The Southern Pacific Makes a New Tariff To Meet the New Competition.

The answer of the Southern Pacific to this cut came on Tuesday in the form of a new schedule. The new charges are to be as follows, the rates being in cents per ton of 2000 pounds, in carload lots, 24,000 pounds, minimum:

From	To Stockton, Stockton wharf and warehouses within Stockton city limits on S. P. Co.'s lines...		To Nevada Dock, Port Costa, Crockett, Benicia and South Vallejo, via Martinez only.....		To Oakland wharf, Oakland (Market street), San Francisco, via Martinez only.....	
	New Rate.	Old Rate.	New Rate.	Old Rate.	New Rate.	Old Rate.
Morrano	60	60	110	125	160	200
Salida	90	105	140	170	190	230
Modesto	110	125	160	190	210	250
Ceres	115	135	165	200	215	260
Keyes	125	145	175	210	225	260
Turlock	140	160	190	225	240	275
Merced	170	185	220	250	270	300
Athlone	180	185	230	250	280	300
Minturn and McNear's Spur	185	195	235	260	285	310
Califa	.....	205	255	270	305	320
Berenda	.....	205	265	270	315	320
OAKDALE BRANCH.						
Farmington	60	80	110	160	160	225
Burnett	90	120	140	210	190	260
Claribel	110	150	160	220	210	270
Waterford	120	165	170	230	220	280
Hickman	125	170	175	240	225	290
Montpelier	140	180	190	240	240	295
Amsterdam	170	185	220	250	270	300

The Southern Pacific Company is also considering certain proposed reductions in its rates on grain bags to the same points in the San Joaquin valley which are affected by the new grain rates.

Gleanings.

VISALIA has shipped the first carload of figs this season.

THE working force of the Gridley cannery is to be increased to 500 persons.

THE Sonoma County Horticultural Society is agitating the project of a new road between Santa Rosa and Petaluma.

THIRTY acres per day is the average run of G. W. Scott's "Benicia King" harvester, now operating near Madison, Yolo county.

A SUISUN letter says: "Several orchardists here have sold their fruit outright in preference to taking the risks connected with Eastern shipments."

THE barn on D. E. Hershey's ranch, near Woodland, burned to the ground last week. A fine stallion, 100 tons of hay and a large quantity of horse gear were destroyed.

IT is said that Mr. Charles Carpy, president of the California Wine Association, is about to retire from active business and go abroad for a season of rest and pleasure. His successor will probably be Mr. Percy T. Morgan.

THE *Eel River Valley Advance* has just issued a special number, in which the region about Fortuna, Humboldt county, is very fully described and beautifully illustrated by engravings. An edition of 18,000 was printed and the paper will be generally circulated.

SANTA ROSA *Press*: "J. A. Kelton has sold 1,200 head of sheep, 100 steers and 50 cows, which he drove down from the Ukiah ranges to Cotati. The steers fetched $22.50 apiece and the cows $17. Mr. Kelton went back Wednesday to Ukiah to bring down 30 head of cattle."

WOODLAND *Democrat*: "Colonel Taylor has on his place near Winters a walnut tree showing wonderful growth. Three years ago the nut was planted. It grew about 15 feet high the first two years, when he grafted in the English walnut. The tree is now about 15 feet high and has eight large nuts on it."

COLUSA *Sun*: "It is reported that grasshoppers are devouring everything green before them in the vicinity of Orland, fruit trees of all kinds, grapevines, vegetables and alfalfa being laid to waste. It is thought little damage will be done to grain, as it is mostly too ripe. Many kinds of poison have been tried for their extermination, but nothing is better than a solution of concentrated lye or strong soap suds. It is claimed they will get fat on Paris green or even strychnine."

MRS. HARRIET BEECHER STOWE, author of "Uncle Tom's Cabin," and for half a century a great figure in American literature, died at her home in Hartford, Conn., on Wednesday of this week at the age of 85. Mrs. Stowe came from the celebrated Lyman Beecher family and was the favorite sister of her famous brother, Henry Ward Beecher. She was a school teacher in early life. Later she married a college professor with poor capacity for business and so turned from necessity to her pen to earn a livelihood for her children. All of her writings were marked by high intellectual and sympathetic qualities, and two of her novels are works of high literary merit; but her fame rests chiefly upon "Uncle Tom's Cabin," which is credited with having brought the slavery question home to the heart of the civilized world, and especially to the American people. Mrs. Stowe's later life has been almost ideal. Her writings yielded not only fame, but a comfortable fortune, and for many years she has lived with every accompaniment that could contribute to her happiness.

THERE is nothing in recent times to parallel the cruelties of the Cuban war. Arson, murder, rape, maiming—these are things of hourly occurrence, and one side is as bad as the other. The war has degenerated into the worst sort of bushwhacking and man-hunting; and as this sort of thing calls for few large losses, there seems no military reason why it should not continue indefinitely.

Pith of the Week's News.

THE Australian wool clip for 1895 will fall far short of the clip of last year.

A METHOD of photographing colors is reported to have been discovered at Chicago.

LARGE areas in Marine county, Wisconsin, are being devastated by grasshoppers.

SAN DIEGO proposes to issue bonds to put in a system of water works at a cost of $3,000,000.

LATEST reports from Japan estimate the loss of life by the recent earthquakes at thirty thousand.

JOSEPH GETZ a pioneer merchant of San Francisco long connected with the dairy produce and provision trade, died at his home June 24th.

THE Democratic conventions of Ohio, Indiana and Georgia have declared for silver. The New York Democrats stand for the gold standard.

ADVICES from Honolulu report that on the 5th of June a tidal-wave swept the Hawaiian coast, raising at certain exposed places to the height of eighty feet.

SENOR MATIAS ROMERO, for many years the Mexican Minister at Washington, has resigned because his views on the silver question have been condemned by his home Government.

HENRY M. STANLEY, the African explorer, is very sick in London. He suffers from a series of troubles due to his life of exposure and hardship and his recovery is considered doubtful.

THE New York *Herald* reluctantly admits that the rural districts of New York are drifting toward free silver at such a rapid gait that nobody can tell what the result of the voting will be this fall.

THE United States revenue cutter Winona, cruising off Florida reef, has during the past week captured two filibustering ships sailing from American ports, loaded with arms and ammunition and destined for Cuba.

THE death of Gen. Wm. Dimond, Chief of the State militia leaves a vacancy which Gov. Budd is called upon to fill. There are several candidates but as yet there is nothing to indicate who the Governor's choice will be.

AT Pittston, near Wilkesbarre, Pa., one hundred miners were entombed on Sunday by falling walls, and all hopes of rescuing them has been abandoned. About forty men were English-speaking miners, while sixty were Polanders and Huns.

ON Friday of last week an electric motor on the New York & Hartford Railroad attained a speed of eighty miles an hour. The experiment was made in the teeth of a fifteen-mile breeze and is considered a great achievement by electrical experts.

A DISPATCH from Germany says that Emperor William is very much interested in the pending financial discussions in the United States and that he is devoting some hours daily to an elementary study of the financial question. It is understood that his leanings are toward bimetallism.

COMPLICATIONS thicken in the Fair case. Another will has turned up at Victoria, B. C., and Mrs. Nettie R. Cravens, a teacher in the city schools has come forward with an alleged marriage contract. All of which makes good times for the legal profession. The end will probably not be for many years to come.

IT is not creditable to California that the prize fight, which has been outlawed in nearly every State in the country, is here permitted and encouraged. It is said that 15,000 men attended the "meet" between Corbett and Sharkey last week which was held in the Mechanics' Pavilion. It was a farce, as it was no doubt planned to be.

LYMAN TRUMBULL, ex-United States Senator from Illinois and a statesman of the highest rank in his time, died at Chicago, June 25th. Mr. Trumbull was contemporaneous with Lincoln and was associated with him for many years in public life. In later years Mr. Trumbull abandoned the Republican party and after a few years of independent political life became a Democrat.

A DISPATCH from Constantinople (June 25th) reports another massacre at Van, Armenia, in which 400 Christians were slain. An eye witness (Capt. Vialar, a French officer) telegraphs: "I have witnessed hideous enormities. Armenian girls and women were publicly sold at auction. A mother threw her two daughters into a well before my eyes to save them from the Turks. The evidences of Turkish official complicity have been obtained by me. The foreign press should be ashamed to remain indifferent."

THE week has been a very busy one at the home of Mr. McKinley. Each day has witnessed the visitation of numerous delegations from all over the country and the population of the town seems nearly double in consequence of the visiting crowds. By far the most important incident of Mr. McKinley's week has been his formal notification by a committee of the Republican National Convention, headed by Chairman Thurston, of his nomination as the Republican candidate for the Presidency. Replying to a formal address Mr. McKinley spoke with great dignity and propriety, declaring his entire accord with the platform adopted at St. Louis, and expressing conviction of his election in November. It was a very noticeable fact, in connection with this reply, that while the financial question was treated very briefly, the tariff question was made a great deal of. It is clearly Mr. McKinley's policy to put forward the tariff as the main issue in his campaign and to subordinate as far as may be the more vexing and mischievous question of silver. It is understood that in the Western States at least it would be the policy of the Republican campaign managers to pitch the fight, so far as it can be done, upon the tariff issue.

NO POLITICAL gathering since the Democratic convention which preceded the war has ever been regarded with so much interest as that which is to come together at Chicago next week. It is conceded that the silver men will have a majority, and it is generally believed that they will have the two-thirds required by the standing rule of Democratic conventions. On the other hand, New York and the Eastern States will send very strong and earnest delegations favorable to gold. That this last named element is bound to meet defeat is almost beyond question, and interest centers on what the Eastern gold standardites will do about it. That Messrs. Cleveland, Whitney, Russell and those who stand with them will accept either a silver platform or a silver candidate is, in view of all that has been said, past belief; but just what their plan will be there is nothing now to indicate. The names most prominently mentioned in connection with the Democratic nomination for President are those of ex-Governor Boies of Iowa, ex-Congressman Bland of Missouri, Senator Ben Tillman of South Carolina and Senator Teller of Colorado, whose recent revolt from the Republican party on the financial issue has made him the hero of the silver men. In the event of Teller's nomination it is believed that all other issues besides the tariff will be ignored, and that an effort will be made to combine the forces friendly to silver in all parties in his support.

American Fruits in Germany.

onsul-General Mason Outlines the Conditions under Which the Trade May Be Developed.

WILLOWGLEN, CAL., June 26, '96.

TO THE EDITOR:—I most earnestly wish that every fruit grower in California would read the report of Consul General Mason of Frankfort in a dispatch dated Jan. 23, '96. I wrote to him requesting him to name some reliable firm in Hamburg or Bremen, and the following is his reply:

CONSULATE GENERAL OF THE U. S. }
FRANKFORT ON-THE-MAIN, May 30, '96. }

G. W. Worthen, Esq., Willowglen, Cal.—DEAR SIR: Your letter of April 17th came several days ago. The special object of my report to which you refer was to explain to the fruit growers of California how they can best organize their business to build up a large export trade to Germany. Your questions seem to indicate that you either have not read the entire report or, if you have, that you do not believe it.

I can therefore only repeat again that there is no use in trying to increase the trade by the old way. No German importer will come to California to buy your fruits and import them here. Sooner than do that he will either go without them or buy what little he actually needs at New York, where prices are high. What I have tried to make your people understand is that they have got to brace up and show some energy; and instead of waiting for European buyers to come to you, send your fruits over here, land them and sell them. If you can get a good live German firm at one of the great seaports—Hamburg or Bremen—to handle your goods, all right; but some one *has got to come and see these people and make definite arrangements.* It cannot be done by circulars or correspondence, and, as both cities are far from Frankfort, I cannot hunt up such a firm.

The whole business is just as I have stated in my report. California fruits *are liked* in Germany; but from the awkward, costly way in which they are imported, via Chicago and New York, they have to be sold here at from 25 to 28 cents per pound, and that puts them beyond the means of the great mass of the people.

Unless the California fruit men themselves have enough energy to cut out all expensive commission business and repeated handlings by middlemen, and send their fruit straight from California to Europe, then I see nothing but to let the business drag along in the old way.

There are two importers here—Mr. Erwin Roelker of No. 33 Hochstrasse and J. Numberg of No. 69 Mainzer Landstrasse—who import considerable dried and preserved fruit from the United States; but you will understand that Frankfort is a city far inland, where all such freight has to come by rail, and no one here is in a position to do a large business. That, as already said, must be done at a seaport city like Bremen or Hamburg. There is no use in quoting what your fruit can be sold for in California. The point is, What can it be sold for in Germany at the seaport where it is landed? Of course your commission men will discourage any plan that will take your business out of their hands and make the fruit growers independent of them. Hoping that some of your associations will have the nerve and energy to attack this problem on the lines indicated, I remain, sir, very respectfully yours, FRANK H. MASON, Consul-General.

City and Country.

Yuba City, June 28th, '96.

TO THE EDITOR:—There appears to be an unfortunate antagonism between San Francisco and the interior. The great and expanding agricultural interests should have a warm friend and co-worker in the city by the sea, and, doubtless, she has, yet the belief is well nigh general that the California metropolis takes an undue proportion of toll off the trade that is compelled to pass through her gates. This is done in a variety of ways and not always observable until the game is over. The city's conduct toward the interior is largely due to the habit formed in her early history, when she was master of the Pacific coast and there was no appeal from her rule. She is slowly and regretfully acknowledging the existence of back-door lines of commerce in whose hopper she cannot dip her toll-measure. Coast cities to the north and to the south are disputing her progress, and are doing it through the exercise of a more liberal policy toward their customers. These considerations have vastly curtailed the city's field of operations, and which can only be enlarged by the exercise of a more liberal policy toward her immediate dependencies and a more persevering commercial attitude toward the peoples bordering on the limitless shores of the Pacific ocean. The heavier products of our farms must enter or pass the great city, and it would seem to be her business and duty to prevent a clog at her gates and to pass double, thribble or even quadruple of the commerce that could be created at the price she exacts now. Instead of opening the innumerable ports of the Pacific, to enlarge her opportunities, she is believed to favor another twist on her remaining customers to accomplish the same ends.

In the memory of the living the rising young cities of the old West—Pittsburg, Cleveland, Detroit, Toledo, Cincinnati, Louisville, Chicago and St. Louis—were constructing artificial arteries of commerce into the frontiers to aid in their development, which proved to them the throwing of their bread upon the waters, to be returned a thousand fold. A similar story will not be written of San Francisco until she experiences a change of heart that will forbid the killing of the goose that lays the golden egg.

The city should know, if she does not, that trade can be increased from the same territory, just as fertility is enhanced by deeper and better cultivation. Such a course would allay ill feeling and antagonism between town and country, to the great advantage of both. On the other hand, the breach must widen while it is thought that the city refuses to carry her just proportion of the cost of government, or that her business men combine with foreign ship owners to squeeze the life out of our wheat growers and producers generally. Many years ago it was said that a combination of San Francisco capitalists paid interest on millions of dollars, to prevent its use among farmers, thus forcing the sale of his wares at a price fixed by the ring. Incoming necessities were similarly controlled by the combination until the producer looked for a highwayman behind every bush.

Is it any wonder that the farmers became jealous of a city that permitted and fostered such practices; and, while the command seems modified in tone it is believed the barb remains concealed beneath the bait. Let the city and her press seek to allay this suspicion and antagonism; help the country on to a plane of greater prosperity, to be reflected many fold on the sunset metropolis.

GEORGE OHLEYER.

Alfalfa Dodder, or Love Vine.

TO THE EDITOR:—I am sending by mail one root of alfalfa, alive, on which a growth, commonly called "love vine," can be seen; one root of alfalfa, dead, on which the dead vine is seen, the vine supposed to have killed the alfalfa. I send also a weed to which the vine is also fastened. What is the vine, how can it be gotten rid of, and will it cause serious loss? These specimens were taken from the same field at El Monte, Los Angeles county, a drained field, where it is 7 or 8 feet to water. It does not seem to make any difference to the vine on what kind of soil it grows. It comes in spots, and wherever it gets a start, there it kills the alfalfa. It does not seem to take whole fields.

Alhambra, Cal. MRS. THERESA C. KEYS.

The common name of this pest is, as our correspondent gives it, "dodder," or "love vine." It has been a common weed in California alfalfa fields for many years. Where it only occurs in spots it is often stamped out by mowing the spot, covering it with straw and burning it off. The dry straw then burns the dodder before it dries and has a chance to cast seed. If the dodder has pretty generally spread over the field, as it will do if left alone, there is no satisfactory treatment except to plow up, covering under everything well and reseeding with clean seed; but it may be destroyed by burning earth in the season, as described below. The botanical name of dodder is *cuscuta*—a genus of which there are several species in this State.

Of the general characteristics of dodder the following from a recent bulletin of the Division of Agrostology, United States Department of Agriculture, has an interesting statement: The worst weed which growers of alfalfa will have to conquer, and the one which causes the greatest damage, is dodder or love vine. This weed, or at least the species which does the greatest damage, is an importation from Europe. It was brought to this country in flax and alfalfa seed, and has spread throughout all sections of the United States where alfalfa is grown. Dodder belongs to the morning glory family, but, unlike the common weedy morning glories of the fields, it is parasitic. The stems are leafless, and look like orange or reddish-yellow threads. When the seed of the dodder germinates the young plant is able to grow for a short time upon the supply of food which has been laid up for it in the seed, but unless its stem can come in contact with that of some plant upon which it can feed it will die. As soon as the young dodder plant touches a leaf, stem, or stalk of the alfalfa it twines around it and becomes closely fastened to the stalk by means of numerous suckers, which enter the tissues of the host plant. These suckers draw out from the alfalfa all the soluble food materials, such as the sugars and oils.

The dodder grows very rapidly, forming tangled masses with its yellow stems, and the alfalfa soon becomes completely choked out. The only practicable remedy after the pest has become established is to mow the alfalfa in early summer, before the dodder begins to bloom, and to burn it where it lies. This will completely kill the dodder without injuring the alfalfa. Dodder can be kept down by mowing, because it is usually attached to the alfalfa stalks just above the surface of the ground. The flowers of the dodder are produced very low down, and even if the upper portions of the parasite were cut off, they would ripen seed. Sheep are said to clean out dodder from the field, but this statement is not very well substantiated. The best method of fighting dodder is the preventive one; that is, sowing nothing but pure seed. The seed of this parasite is only about one twenty-fifth of an inch long, or not over half as large as the alfalfa; so that if the seed is run through a screen, say with a mesh about as large as that used for an ordinary screen door, the minute dodder seed will be easily separated from that of the alfalfa.

Dried Peeled Peaches.

TO THE EDITOR:—I notice J. A. R.'s questions about drying peeled peaches. I dried peaches last year for the first time and found that all peaches should be fully ripe when picked; if not, they make inferior looking fruit and will not peel. After they are sulphured, if fully ripe, they peel very quickly and easily before they begin to dry around the edges. It cost me the same to peel as it did to pit. In the Newhall variety I found it took 6½ fresh to 1 unpeeled dried and very nearly 9½ to 1 peeled. I found no trouble in any freestone varieties that were fully ripe. The clings would not peel that way, and I tried lye dipping on them with very poor results. I do not think peeling them would pay.

From our little experience we conclude that, for making peeled peaches, we must have fully ripe fruit of good size. All small and inferior fruit should be sorted out and dried separately. All trays should be thoroughly cleaned and brushed. I think it would pay to put tressels in the field to lay the trays on. You must have careful, painstaking hands to do the peeling, as a poor peeler makes the fruit very mussy. It should be scraped from the trays before it gets thoroughly dry. I used a wide shingle for scraping.

Hollister. F. H. BOYNTON.

Weather and Crops.

Report of the State Weather Service up to Monday, 29th inst.

The following synopsis of the weather and crop conditions during the week ending Monday, June 29, is issued by the State Agricultural Society in co-operation with the U. S. Climate and Crop Service, James A. Barwick, Section Director:

Sacramento Valley Counties.

BUTTE COUNTY (Chico).—Apricots this year are better than usual, being large and finely colored. Peach crop light in many sections, but the fruit was never better. (Yankee Hill).—Hay is a good crop. (Honcut).—Oats are headed, barley is now being harvested.

GLENN COUNTY (Elk Creek).—North winds did some slight damage to ripe grain. (Germantown).—Harvest in full blast; grain somewhat damaged by winds.

COLUSA COUNTY (Grand Island).—Haying about completed and the crop is good; wheat ripening fast; highest and lowest temperatures 100° and 62°.

SUTTER COUNTY (Kent).—Harvesters are running. (S. W. Sutter).—The north wind is doing considerable damage to early wheat and barley.

YUBA COUNTY (Wheatland).—Wheat is considerably shrunk, but may recover; hops making a fine growth; highest and lowest temperatures 105° and 57°.

PLACER COUNTY.—Harvesting is in full blast.

SACRAMENTO COUNTY (Arno).—Next week grain cutting will be general. Wheat is somewhat shrunken. (Clay).—Winds have shrunk the grain some; haying is over and harvesting has commenced on barley. (Orangevale).—Highest and lowest temperatures 103° and 58°. (Galt).—The hot north winds during the week have injured the wheat crop to some extent.

YOLO COUNTY (Woodland).—The hot north winds in northern part of the county did considerable damage.

SOLANO COUNTY (Briggs Vineyard).—Have heard of much damage being done by the north winds, some grain that was over ripe shelled out, but a good crop is assured. The wind shook off a lot of tree fruit not ripe enough to dry. Highest and lowest temperatures 102° and 55°. (Dixon).—Next week harvesting will be in full blast. North gale has inconvenienced farmers by ripening grain all at once. (Tremont).—Severe north wind is not healthy for the ripe barley. Harvesting is nearly a month later than last year. (Vacaville).—Fruit men busy drying and shipping their apricots, the crop being a light one this year and the eastern shipments are small.

Napa, Sonoma and Santa Clara Valleys.

NAPA COUNTY (Calistoga).—All fruit is doing well. Hay excellent quality and the grain fine. (Napa City)—The very small fruit crop is a grievous disappointment not only to the producer, but to many persons who annually look to the fruit harvest as the time for earning good wages. There are not a few orchards in which there is not fruit enough to pay running expenses.

SONOMA COUNTY (Peachland).—Early varieties of peaches are yielding their first fruit. Peaches and apples will be scarce. Highest and lowest temperatures, 92° and 54°. (Healdsburg)—In the past few days grapes have been dropping badly; and should this continue, the crop will be almost a total failure. (Santa Rosa)—Wheat is light. The fly has affected the crop. Oats are fine and barley fair for all the early sown crops. Apples, which set the best of any fruit, have fallen very badly, and they have not stopped dropping yet. Prunes and peaches will be short crops. The season is generally backward for fruit. While grapes promise to be the best all-round crop this season, it is useless to deny that severe frosts worked a serious injury that will not only affect Sonoma county vintage this year, but in 1897 also.

ALAMEDA COUNTY (Livermore).—The grape crop is coming on better than was expected. The crop will be an excellent one.

SANTA CLARA COUNTY (Milliken).—Fruit growers now realize that the spring frosts did not do as much damage as supposed. The apricot crop, with the exception of the Moorparks, is fairly good. Pears heavy; prunes better than usual. A few peach orchards were badly hit by the frost, but most of them have a full crop.

SAN BENITO COUNTY (Hollister).—Early peaches light; good crop of Bartlett pears. Codlin moth doing damage to apples and pears. Highest and lowest temperatures, 84° and 38°.

San Joaquin Valley.

SAN JOAQUIN COUNTY (Lodi).—Fruit is well. Melons will be very late, and acreage is smaller than usual. Highest and lowest temperatures, 100° and 51°.

MERCED COUNTY (Livingston).—Rye crop has turned out better than expected. Wheat will be a fair crop.

MADERA COUNTY (Madera).—Grain turning out well.

FRESNO COUNTY (Fresno).—Grain and fruit maturing rapidly. Highest and lowest temperatures, 104° and 63°.

TULARE COUNTY (Tulare City).—Grape vines promise a fair crop; peaches and other fruit short and not of as fine quality as usual, but the pear crop is a good one. Highest and lowest temperature, 112° and 60°. (Lindsay)—Wheat crop short. (Poplar)—What little grain there is is of the best. There will be considerable Egyptian corn planted in this part of the country.

Southern California.

VENTURA COUNTY (Santa Paula).—Beans are doing fairly well. Walnut growers will have an unusually large crop this year. Highest and lowest temperatures, 90° and 48°. (Saticoy)—Lima beans are looking well. Apricot drying has begun and the crop is small. (Ventura)—The bean crop never looked better.

LOS ANGELES COUNTY (Los Angeles).—Deciduous fruits are ripening fast, but the crop generally will be a short one. Oranges continue to drop. Highest and lowest temperatures, 93° and 58°.

Coast Counties.

HUMBOLDT COUNTY (Eureka).—Crops are maturing; feed is drying up. Highest and lowest temperatures, 65° and 45°.

MONTEREY COUNTY (Pajaro).—Thinning the apple crop is now in progress in many of the large orchards.

HORTICULTURE.

Small Fruits in Southern California.

Byron O. Clark of Pasadena gives some suggestions in the *Cultivator* which are pertinent and interesting.

Blackberries.—Blackberry vines will require frequent attention to keep the young canes that are to bear next year's fruit crop in shape. As soon as they reach the height of 3 feet pinch or cut off the ends of the young growth, and thus cause them to make side branches. These also should be cut back when they have grown 12 to 18 inches in length. The more thoroughly the young growth is kept controlled the more bearing surface you will have next year. Remove all surplus suckers, allowing only those to remain that are to supply bearing wood for the coming year.

The soil should be kept moist by proper irrigation if you wish large, luscious berries. The intervals between irrigations should not be so long as to allow the soil to become dry and thus check the development of the fruit, for it is liable to be hard and "seedy" and lack the tender lusciousness that makes the blackberry the healthful and favorite among berries that it is. The other extreme of giving too frequent irrigations must be avoided. Too much water, while it may make the fruit grow large, will cause it to be soft and insipid in flavor. I have seen berries grown on very wet land that would not keep till morning, even when picked after 4 P. M. of the previous day, while those grown on the same kind of soil, with just sufficient moisture, held up well for twenty-four to thirty-six hours. This is a very important point for the market man as well as the producer, even if the flavor and eating qualities did not enter into consideration.

Raspberries.—The raspberry will require much the same treatment as blackberries. It is especially important that the red varieties should have the surplus suckers which sprout from the roots kept down, as they take the vitality away from the parent plant even more than is the case with the blackberry.

Strawberries.—The above remarks as to irrigation apply to strawberries even in a more marked degree as to flavor. Excessive irrigation is responsible for so many soft, flavorless berries found on our market. Too much water spoils both flavor and keeping qualities of a large percentage of the market fruit, and until our growers learn to discriminate as to how much water can be used without sacrifice of quality we cannot successfully refute the charge that much of our small fruit does not have the flavor of the Eastern berry.

Soak the ground thoroughly while the fruit is setting, and water only lightly while the crop is ripening. No set rule as to exact time to irrigate can be laid down, as so much depends on the nature of your soil and local conditions. These each individual grower will have to work out for himself if he wishes to grow only the best. Give your plants as little water as posssible to keep them in good growing condition while the fruit is ripening.

Remove all runners from such varieties as do best grown in stools, notably the Arizona. Belmont, Monarch of the West and many others will produce more *early* fruit (which is most profitable) if a portion of the young plants, after the main crop of fruit is taken off, are allowed to remain and take root. You will get stronger sets by allowing a limited number of runners only to each stool, and only one or two plants to each runner. If these are allowed to root and then properly thinned for new plantations, leaving the balance undisturbed, you will get earlier fruit from these plants next winter and spring than from the old ones.

More attention should be given to grading berries for market. If a few fine large berries align the top of the package, and small or inferior fruit underneath, you cannot expect to have pleased customers. Grade your berries same as other fruit. It will pay, and such fruit will soon have a preference on the market that will be decidedly to your benefit.

The Jonathan Apple in New Mexico.

Parker Earle, the well-known horticulturist, who is now a resident of Pecos valley, writes of the Jonathan apple in a new paper, *Practical Irrigation*, in a way which interests California growers of this variety. He says there is no apple produced now in any quantity in the United States that sells for as much money when handled well as the Jonathan.

Old Sorts Failing.—The old Newtown or Albemarle Pippin always outsold all other apples whenever it could be grown. It is the finest apple in the world. But it has long failed in all the States, except in limited districts along the Hudson and at the foot of the Blue Ridge. It is practically out of the market. So with most of the high flavored popular apples of the East, like Rhode Island Greening, Spitzenberg, King, Canada Red, etc. They cannot be grown in the West, and they are failing in the East, where they were once the glory of the orchards. The commercial apples of to-day are on a distinctly lower level of quality.

The one apple of all the high class sorts that meets the approval of the most critical tastes, that has been widely and successfully grown in the West, is this admirable prince among fruits.

The Jonathan is a seedling of Esopus Spitzenberg, with all the high quality and more than the beauty of that famous apple. But the Spitzenberg was fastidious about soil and climate. It never succeeded in a general way. The Jonathan is more cosmopolitan. It does well in New York, Ohio, Michigan, Iowa and Kansas—or did so until the hosts of apple enemies which have taken possession of the old States overcame it, with all others, in a common ruin. Whenever you can find a barrel of fairly good ones in any market you will always find it held for a fancy price.

The Jonathan is not only a most beautiful fruit, there being nothing handsomer ever grown in any orchard, or gracing any table; it is also of the highest quality. It has the most delicate flesh and the most refined flavor. But these fine qualities unfit it for rough handling, and generally for long keeping. Its ripening season is also too early to make it keep safely all winter under usual conditions. It has the fault also of not hanging well to the tree. When its time comes it must be harvested, or there will be waste. It is especially liable to this trouble at the East, where the humid climate generates diseases of the leaves. If the leaves blight and drop prematurely the fruit will drop much too soon.

Ripens Early and Keeps Late.—Right here comes in the important point I wish to make. In the neighborhood of Roswell the Jonathan seems perfectly suited with its environment. The tree is healthy, the leaves remain green, and the fruit hangs well—for a Jonathan. Its beauty and excellence are beyond comparison. Yet it must be gathered early in September. This would seem to indicate a short keeper—but it does not prove so. With me the past winter it has outkept all other kinds, under the most trying conditions. I have in my room to-day several specimens of Jonathan that I gathered seven and one-half months ago—the 10th of September. They have been wrapped in paper and lain in a box in my room, which has had a fire in it all the cold days. This drying air has caused a good deal of shriveling, which is inevitable for all fruit exposed to the air at all in this climate. But the apples are sound, and they look and taste like Johnathans still. It seems to me wonderful. With proper storage—cold, but not too dry—we can keep this elegant fruit, perfectly, for marketing all through the winter months. It is handsomer here than in Iowa or New York, and of equal quality and a better keeper.

ARBORICULTURE.

American Nut Growing.

NUMBER VI.

Location of Walnut Orchards.—It is evident from all that has been written that the Persian walnut, even in regions where it succeeds best, has proved to be a very capricious and fastidious ward of the horticulturist. Whatever may be the capabilities of the new varieties, the Los Angeles walnut, which constitutes by far the larger part of the trees planted, is regarded as profitable only in the counties of Ventura, Santa Barbara, Orange and Los Angeles. And within those counties the localities of profitable production are relatively small. The condensed replies received from most of our correspondents on this subject will read: "Plant walnuts only on rich, moist, well-drained lands in valleys within thirty miles of the coast, where there is water within ten or fifteen feet of the surface." In this connection the experience of Russell Heath of Carpenteria may be of value to intending planters. He regards the selection of a suitable locality of the utmost importance. His first effort was in Ventura county, where, after a trial of one and one-half years, he found he had made a mistake in his selection and removed to his present location. He selected ground covered with a dense jungle, of which 180 acres were cleared at an expense of over $100 per acre and planted it to the Persian walnut. These trees are reported to have grown luxuriantly and to have made a fine and profitable orchard. It is a point of some interest to know that the timber which originally covered the ground was oak, as it is commonly believed in California that the walnut will not succeed on oak land.

This practice of planting on none but exceedingly rich land, if found to be the only successful one, will necessarily limit the acreage planted, and probably make impossible the production of enough nuts to supply the demands of our home markets, because of the comparative scarcity of such land and its value for other purposes. Experience has shown that to prevent crowding on such land the trees must not be closer than fifty feet each way, which allows but seventeen trees to the acre—too small a number, considering the risk of crop failures on some trees—to make safe the investment of so much capital for so long a time as is required to bring them into profitable bearing. Certain experiments with hardy varieties newly introduced seem to indicate that the possible range of profitable culture is much broader than has been found true in the case of the Los Angeles nut, or Mission nut, which has been planted almost to the exclusion of all others. Felix Gillet, to whose enterprise the introduction of the late blooming and hardy French varieties is due, writes that he feels warranted by his experience in saying that walnut culture can be carried on successfully on the whole Pacific coast by planting "none but the hardy kinds, and planting them on plateaus, hillsides, rolling land, alongside roadways, around large fields and vineyards, in cordons and avenues, on soils not well adapted to other crops, and where the walnut in the course of time will grow to gigantic dimensions."

GROWING THE ORCHARD.

Stocks.—The Persian walnut is grown both in this country and Europe, mostly on its own roots. In fact, the larger part of the orchards consists of seedling trees. In Europe budding and grafting have long been practiced, and in some cases the black walnut (*Juglans nigra*) has been used as a stock. Michaux recommended to European growers that it be budded on the black walnut because of the greater value of that wood, and Baltet states that he has been successful in cleft grafting on the black walnut as a tall standard, thus securing "a twofold profit from the timber of the stem and the fruit produced by the graft." In California it was long ago found that the California black walnut could be used as a stock for the Persian walnut. Wickson's "California Fruits" mentions a tree on the grounds of John R. Wolfskill, in Solano county, budded in 1875, which had attained a height of fifty feet and spread sixty feet in 1888. Its annual yield of nuts is stated to be 200 pounds. B. M. Lelong, secretary of State Board of Horticulture, reports having some years ago budded 500 trees of the wild California stock, growing in the mountains east of Los Angeles. He used the prong method, and met with good success. Mr. Lelong states that, contrary to the common belief that fruit grown on such stocks would have darker, thicker shells, an examination of fruits thus grown showed no observable difference in either flavor or color. From the fact that the tree is hardy farther north than it is fruitful, the question of stocks is not an important one except for the South, where its roots are damaged by root knot.

Selection of Seed.—If seedlings are to be depended on for fruit without the intervention of budding or grafting, it is important that proper care be taken to select such nuts for planting as are likely to produce a marketable product. The tendency among those growers who have given the matter of seed selection special attention is to select for seed the largest nuts with the thinnest shells, and that is now the prevailing practice. It may well be questioned, however, whether a thinner shelled nut than many of those now marketed from California is desirable. A firm shell of medium thickness seems desirable in the walnut, both to prevent breakage in shipment and premature rancidity of the meat. In the matter of size it may be said that if the kernel is plump and fills the shell, then the larger the nut the better, from a market standpoint. It is desirable, also, that the nuts selected be from trees that combine productiveness, hardiness and the habit of starting growth late in the spring. These qualities should be sought even in selecting seed for growing the stocks on which to propagate improved varieties.

Seed Beds.—In Europe nuts that are intended for planting are kept through the winter in a "rot heap," made by piling up the nuts as soon as gathered without removing the hull. This heap must be turned over frequently in the course of the fall and winter to prevent heating. A better plan than this is that of stratification, using sand as the medium in which to bed the nuts. As practiced by California growers, it is thus described: "A frame consisting of ten-inch boards is placed on the surface of the ground and half filled with sand. The nuts are then spread thickly (a layer of nuts six inches deep) and covered with about three or four inches of sand. An embankment of earth is laid all around the frame to prevent the nuts from drying. The nuts are examined from time to time; and, as soon as they show signs of germination, are planted in nursery rows." The sand is kept constantly moist, and in case of lack of sufficient rain is watered. To insure uniform germination it will probably be found helpful to grade the nuts according to size, bedding those of uniform size together. Large nuts generally germinate earlier than small ones of the same species.

Nursery Treatment.—The soil should be deep and rich, well drained and thoroughly pulverized. The sprouted nuts should be carefully planted one foot apart, in rows four feet apart and covered well with fine soil well firmed down over the seed. Cultivation should be frequent enough to keep the surface fine and should be supplemented by use of the hoe whenever weeds appear in the rows. If the soil is good and the season favorable, the young trees make a rapid growth, and in California ordinarily make stocks suitable for budding the first season. If they are to be planted in orchards without budding or grafting, they are usually left in the nursery row

until two or three years of age. This is the common practice among California growers. O. N. Caldwell of Carpenteria, who has had an experience of twenty years in the business, writes: "I have raised trees from seed and transplanted all the way from a year old up to six, and they have grown and done well; but as far as my experience goes, I prefer to move them at three years of age or about that time. The best trees I have were planted at three years old. A part of my orchard stands where the trees were not replanted, and I can see very little difference between these and those that were transplanted at two or three years old." Very different from this is the practice of Russell Heath, a successful walnut grower at the same place. He pursues a method similar to that quite commonly followed in Eastern New York some forty years ago for keeping up a supply of cherry and apple trees for planting in home orchards—that is, of leaving the trees in nursery rows until they reach bearing age. He says: "I leave the trees in the nursery rows until they have attained the age of bearing, say the eighth or ninth year. Of course nurserymen cannot afford to raise trees of that description, but a man who stakes his money and his time upon an orchard can afford to wait. I would rather give $10 for a tree that is nine years old than to give one cent for a tree that is four years old. There is money in it, because they cost me no time to cultivate in the nursery. One man will go through a nursery and cultivate 1000 trees in half a day; but if you place those trees in an orchard you are at great expense. You can buy teams and hire men, but I tell you that even in California, with all its fruitfulness, you can't buy brains to drive those teams."

Inasmuch as Mr. Heath's plan involves the necessity of removing all or most of the side branches and the formation of a new head for the tree, as well as considerable injury to the root system, it demands more than passing notice. It will be remembered that his orchard site is an exceptionally good one and that his soil is very rich. These two facts, taken in connection with thorough and systematic cultivation, should be duly considered by intending planters, and proper allowance should be made for them. In ordinary situations and soils it is not likely that a practice that involves so severe a shock to a tree which has reached fruiting age would result in the establishment of orchards uniformly thrifty, productive or lasting. It will in all probability be successful only in rich soil and sheltered locations. Mr. Heath's method necessitates the cutting of the taproot, and we therefore give his experience in regard to that point, quoting from the discussions of the California Horticultural Society: "Some wiseacre, who thought he knew more concerning the cultivating of nuts than any other man in California, discovered in Los Angeles that if you cut the taproot your tree would never bear, and that was published in the papers throughout the State. I said, 'Here is a pretty kettle of fish again. I have cut all the taproots in my orchard, and I don't know whether I am going to have any fruit. I will see about this thing.' They said that where the taproot is cut, there the decay would commence, and an insect would attack the root and eat the life out of the walnut tree, and it would finally die. I determined not to be fooled much longer in spending more money, and took two men and went right down into my orchard. I could not make any mistake, because I had cut off every taproot in the orchard. We dug down carefully by the side of a tree—I was going to be very careful about it—and after they got down below where the taproot was cut, I got my magnifying glass and said: 'Boys, you needn't use your shovels any more.' I wanted to get at this thing with my hands, and took my glass and went down in the hole. I commenced digging like a gopher, and when I got down to where the root was cut, to my surprise there were two taproots, beautiful as could be, sent out from the same place where the taproot was cut. I examined five trees in that way, and each had two taproots, and I made up my mind that the Los Angeles man that had been writing about taproots was in a dream."

FLORIST AND GARDENER.

Onion Culture.

NUMBER IV.

Harvesting.—Onions should be promply harvested at maturity. Harvesting should begin when most of the necks have turned yellow and are considerably withered. Although there is generally still quite a number of green tops when the main crop is ready for harvesting, the bulbs of these will thoroughly ripen if pulled along with the others. It is not safe to postpone the harvesting on account of a few green tops. If left too long in the ground, the bulbs are liable to reroot, especially if there are frequent showers, and the quality of bulbs is injured. Promptness in harvesting is not quite so important if the transplanting system is followed, as in this case the crop usually matures at a dry season.

The pulling of the crop is not an expensive operation if the bulbs are large and do not set too deep in the ground. Boys may be most economically employed in this work. The plants are simply pulled by the hand and deposited in windrows until fully cured, which will require from a week to ten or more days. On bright days the curing will be hastened by stirring with a wooden rake. The bulbs must be raked very gently to prevent bruising, which causes them to decay rapidly, special precautions being necessary in this respect with foreign varieties. If there is danger of a rainy season the crop may be cured in open sheds or on a barn floor. The bulbs of white varieties must be handled with grater care than those of the red and yellow sorts. If the rays of the sun are very hot the onions should be gathered in piles, each containing enough onions to make about a barrel, and then protected by thin layers of straw. This will prevent the sun from turning exposed portions of the onions green. After the crop is cured the bulbs are sorted, topped if desired, and properly sorted.

Winter Storing.—The winter storing of onions is always attended with more or less loss. If not thoroughly cured when sorted many of the bulbs will sprout, and others will decay if they have sustained even slight bruises in harvesting. There will be more or less shrinkage, and a large percentage of the onions will be lost if the proper care is not given to ventilation and maintaining the desired temperature. For these and other reasons most growers prefer to dispose of the crop as soon as possible, and are willing to accept low prices rather than run the risk of loss by storage.

It is absolutely essential for successful winter storing that the bulbs should be well matured, thoroughly cured, not bruised, and in a perfectly dormant state. Most growers perfer topping the onions before storing. Sheep shears can be used to advantage in this work, leaving about an inch of the onion top extending above the bulb. The sorting may also be done by hand or by means of a screen, the rods or salts of which diverge, letting the bulbs fall into three hoppers, separating the onions into three grades.

The Production of Onion Seed.—It should be the aim of every grower of onion seed to produce only seed of the highest quality. The characteristics of the ideal bulb should be carefully considered by the producer of seed. The bulbs from which the seed is to be grown should be selected with care, rejecting those which do not approach as near as possible to the grower's ideal. Culls or unsalable onions are too frequently used for this purpose, and although the seed therefrom in good seasons may be heavy and may germinate readily, they will not produce a satisfactory crop. By careful selection and judicious cultivation through a series of years, it is possible to greatly raise the standard of excellence. By this method the flat-formed bulbs, which are not so productive nor salable, may be ultimately changed to those of a perfect globular form After the soil has been properly prepared, cover the onions in trenches 4 or 5 inches deep, allowing about 6 inches between the bulbs. The rows, if to be worked by a hand wheel hoe, should be from 14 to 18 inches apart; if a horse is to be used in cultivating, about 2½ feet apart. It is important to plant the onions as early as the spring weather will permit. Where the winters are not too severe, fall planting is preferable.

After the seed stalks are well started the soil should be drawn about them to give the plants necessary support. This should be done three or four times during the season, finally leaving a ridge 7 or 8 inches high. Some growers prefer supporting the plants by means of twine stretched on either side of the rows.

After the last cultivation the plants should be disturbed as little as possible until the time for harvesting. Promptness in harvesting is very important, for if delayed too long the seed receptacles crack open and part of the crop will be lost in handling. When the tops assume a yellowish appearance remove them with 5 or 6 inches of the stem, and if overripe, deposit in tight vessels or in baskets with papers spread over the bottoms and sides to prevent loss. The entire crop does not mature at the same date, hence it is necessary to examine the plants three or four times in order to remove the seed at the proper stage of ripening. The tops should be stored in a well-ventilated room with a tight floor until dry enough for threshing. Frequent turning of the tops will hasten their drying and shake out more than half the seed. The remaining seed may be removed by flailing. Cleaning is done by repeated winnowing, and by washing in buckets or tubs to separate the light seed and chaff that the winnowing fails to remove. The seed must be thoroughly dried and stored in a location free from excessive moisture.

Bunching Onions, Sets, and Picklers.—Several methods are employed in the production of bunching onions. In the South, the Potato onion is largely used, the bulbs being planted in the fall. They are set in trenches 4 or 5 inches deep and placed 3 to 6 inches apart in the row. The bulbs increase and divide during the growing season, and may be pulled and bunched very early in the spring. Small sets of white or yellow varieties are extensively used by some market gardeners in the production of bunching onions. Either fall or spring planting may be practiced. The sets should be planted 1½ or 2 inches apart, allowing a foot between the rows. Seed is also largely used in raising bunch onions.

The earliest crop can be secured by sowing in September or October, or sufficiently early for the seeding to become firmly established before the advent of cold weather. Fall sowing is best adapted to the warmer sections of the country. Seven or eight pounds per acre should be sown, making the drills 10 or 12 inches apart. The Barletta variety may be sown for early use.

The soil should be only moderately fertile for growing sets, but free from little stones and weed seeds. Seed is drilled in at the rate of from 50 to 60 pounds per acre. It is desirable to defer sowing in the spring until most of the weed seeds which may be present in the soil have germinated. The aim of the grower should be to secure a crop of very small bulbs as nearly uniform in size of the sets. Of course, a bushel of the smallest sets will plant a greater area than the same quantity of the larger ones, hence they command a higher price. When mature, the sets are lifted by a trowel and deposited with the surrounding soil in a sieve with meshes small enough to hold the smallest bulbs. A crib or dry, well-ventilated apartment may be used to cure the onions, spreading them in thin layers. It is extremely important to dry the sets thoroughly, so that they will remain in an entirely dormant condition until sold or planted. Before the final storing a fanning mill is used to remove the loose skins or other light refuse. White sets command the highest price.

In the production of pickling onions about 25 or 30 pounds of seed per acre should be sown. No variety is better adapted to this purpose than the Barletta. The bulbs when harvested should be as uniform in size as possible. Onions measuring from three-fourths of an inch to 1½ inches in diameter are the proper size for this purpose.

THE DAIRY.

Some Studies in Cattle Feeding.

By Prof. M. E. Jaffa, of the State University, at the meetings of the Dairymen's Association in Humboldt County last week.

It is a recognized fact that the feeding of the cattle is one of the most important branches of the dairy industry. What is best and, at the same time, the most economical feed for the animals is, or ought to be, the first point of consideration of he who wishes to rank as a progressive dairyman.

There is a certain amount of waste and loss going on all the time in the animal body, which must be as constantly replaced. The secretion of the milk is the cause of one kind of loss; the involuntary work necessary for the carrying on of the normal functions of the body brings about waste. The breaking down and wearing out of the tissues and depletion of the fluids of the body can only be replenished by the food taken into the body.

If the food is to furnish material necessary for the building up of the body and also to repair the waste of the tissues, etc., it must necessarily contain elements which, directly or indirectly, can be converted into tissue substance. Now these tissues and fluids of the body vary in their composition, such as fatty tissue, muscle, tendons, etc.; similarly as regards the fluids of the animal organism. Hence we can readily see the reason for and the necessity of the food being varied to some extent in its character. We must understand from the outset that certain ingredients cannot replace, be transformed into, or act as a substitute for others. For instance, fat can *never form muscle*, therefore if we want to replace muscle we must in the food have some muscle-forming elements. We thus have proved to us that it is of the utmost importance to be conversant with the composition of the food. It is a very simple matter to fill a cow's stomach with food. But if there is not enough nourishment in the quantity fed to keep the animal in a normal healthy condition, not only will it suffer but the milk yield will rapidly fall and the quality be reduced.

Elements of Food.—The main constituents of the foods are protein, fat and carbohydrates, the protein being transformed into muscle and the fat and carbohydrates being used as heat producers. The contents of these different elements in any feedstuff determines its character; the ones containing a high percentage of protein or albuminoids being termed nitrogenous, while those with considerable carbohydrates are classed as starchy foods.

A certain amount of nutriment is needed by the cow every day. This is a point which has been the subject of much investigation among scientific men in all parts of the world, and the conclusions they have arrived at are not merely idle guesses but the results of innumerable experiments, many of which were far from being successful. Science in this, as in many other matters, has had uphill work. But at present almost all feeders are availing themselves of the facts brought out by the scientists, and most of them appreciate what inestimable advantage it is to

have at their command the data which has been worked out by the experiment stations and colleges.

The quantity of food daily consumed by an animal is designated as a ration. Rations are essentially well balanced or poorly balanced. The former is one where the ingredients are present in the proper proportions, that is, where the protein or flesh-forming constituents and fat or heat producers exist in such quantities as to bring about the desired results. A poorly balanced ration is just the reverse; it is one which contains too much of any constituent, be it protein, fat, or carbohydrates. Just what the best ration should be for California has not been thoroughly worked out as yet. We try to follow the standard set down by the Germans and also by some scientific feeders in the various parts of the East. The ration corresponding to this standard is as follows: For 1000 pounds live weight, about 24 pounds of dry matter, containing about 2.5 pounds digestible protein or nitrogenous food, about .4 pound digestible fat (heat producers), and about 12.5 pounds digestible carbohydrates (starch, etc.). The fuel value of this ration amounts to 29,100 calories with a nutritive ratio of 1:5.4.

These figures are not by any means an absolute standard, but they are the average of many hundreds of trials by those deeply and scientifically interested in the cause. They are meant to act as guides, and do so serve the intelligent feeder. It would be impossible to announce a formula that would cover all cases.

Prof. Woll of Wisconsin, in order to ascertain how the ration fed by the prosperous and practical dairymen of this country compared with the standard just mentioned, sent letters to over 100 such people, and, from the replies he received, calculated a ration, which amounts to 24.5 pounds total dry matter, in which there are 2.2 pounds digestible protein, .70 pounds digestible fat and 13.3 pounds of digestible carbohydrates, or starchy material, with a fuel value of 31,250 calories and a nutritive ratio of 1:6.9. This ratio does not differ materially from the German figures, excepting in the case of fat content, which is in the latter case a little more than one-half that noted by Prof. Woll.

The Ration.—Having now the amount necessary per cow of a given weight, the next question that comes before us is how to supply the necessary amounts of the different nutrients, or, to return to our original proposition, what shall we feed? In other words, what is a proper ration for a milch cow and what are its component parts?

Feeds may be divided into two main classes, green and dry. Green feeds may be subdivided into: Green feeds (1) by pasture alone; (2) by pasture, with grain ration in addition; (3) by soiling alone; (4) by soiling, with grain ration added; (5) by soiling, with silage and grain added.

Dry feed generally consists of hay with a grain ration.

Let us first discuss feeding by pasture only and ascertain about how much would be required per cow to correspond with our standard ration.

Pasturage is par excellence the food for a dairy cow. It is nature's food, and where such nourishment exists in sufficient quantity and of high quality, there would be no financial gain by supplementing the grass with a grain ration. This has been shown by extended trials made at Cornell University and other experiment stations. At the same time another important fact has been brought out by these investigations, which is, that, excepting where the pasture is very luxuriant, while there was no pecuniary advantage in giving the animals grain while at pasture, there was in hardly any instance a monetary loss.

In nearly every case where grain supplemented pasture feeding there was an accompanying increase in yield of milk, and hence of butter fat. But it was found that the increased return from the sale of the milk or butter rarely, if ever, more than compensated the feeder for the extra outlay entailed by the purchase of grain.

More Cows to the Ranch.—There is one consideration that must not be lost sight of, viz: if a dairyman has only limited pasture, and that is by no means an uncommon occurrence, he can accommodate more cows in the same pasture when using grain as part of the ration than is possible when he relies solely on the grass ration. It is much better and more in the line of advanced dairying to give the animals pasture with some other food in addition, and thus have all the animals properly nourished, than to have the cows only sparingly fed by not having sufficient pasture. If the animal did not derive any other benefit from the grain, except in the way of increased weight or strength, then it would be hardly worth while for a feeder to experiment with the grain, where the pasture was first-class.

In one of the tests made at the Cornell University Experiment Station one lot of Jerseys were fed grain and another lot no grain. The former yielded during the period of the experiment 22,628.5 pounds of milk, while the output of the latter was 17,697 pounds of milk, or 4,930 pounds of milk more for the grain-fed lot, which amounted to about 3½ pounds per cow per day. The cows of the herd were thin in flesh at the commencement of the trial, but gained as it proceeded. The grain-fed lot gained 166 pounds per cow and the other lot 113 pounds, or an increase of 53 pounds per cow in favor of the grain-fed lot (from May 22d to October 23d—154 days). Still the increase of milk would hardly seem to warrant the buying of grain, and it is not generally considered profitable to feed cows for a gain in live weight only.

This was the view of the Cornell station; but, on further investigations, they ascertained that the grain-fed cows during the next year, without any grain, gave larger yields of milk to the extent of 16 per cent than did the cows which had received only pasture feed—thus showing that the effects of the grain ration was felt in the season following its use.

This would seem to indicate that the grain ration in addition to pasture was a source of lasting benefit to the animal; especially in the case of the younger ones, for it was noticed at the station that the grain-fed two-year-olds and the three-year-olds developed into better animals than the ones having had no grain.

The grain ration fed per cow during the trial was composed of 2 pounds corn meal and one each of cottonseed meal and bran. The pasture consisted entirely of blue grass.

It would be a somewhat difficult matter to make a comparison of the amounts consumed by each lot of cows during the investigation. It is of interest, though, to note how much blue grass the four pounds of grain is equivalent to in nutritive effect. The amount of nutriment in the grain ration is shown by the following little table:

	Total Dry Matter.	DIGESTIBLE.			Fuel Value, Calories.
		Protein.	Fat.	Carbo-hydrates.	
2 lbs. Corn Meal	1.75	.11	.02	1.40	2872
1 lb. Cottonseed Meal	.90	.41	.11	.15	1514
1 lb. Bran	.87	.11	.03	.46	1151
Totals	3.52	.63	.16	2.01	5537

By referring to the analysis of blue grass, below, we find that 10 pounds of it contain about the same amount of total dry matter and carbohydrates as does the grain ration, but practically has only one-half the protein and fat contents. In order that the same amount of protein should be fed by means of grass one would have to use a little more than 20 pounds, in which case the carbohydrates would be greatly in excess.

To balance this ration would necessitate the addition of 65 pounds of grass to the 4 pounds of grain. The showing would then be:

	Dry Matter.	DIGESTIBLE.			Fuel Value.
		Protein.	Fat.	Carbo-hydrates.	
Grain Ration	3.52	.63	.16	2.01	5537
65 lbs. Blue Grass	22.75	1.88	.52	12.48	28860
Totals	26.27	2.51	.68	14.49	34397

The protein content of the ration thus completed is identical with that of our standard, while the remaining figures show no material difference in this respect.

A balanced ration consisting entirely of blue grass would require about 85 pounds. Now let us determine how much will be correspondingly required of the grasses and forage plants of this section, viz., red clover, alfalfa, rye grass and orchard grass. The analyses of these feedstuffs are given herewith:

PERCENTAGE COMPOSITION.	Red Clover	Alfalfa	Rye Grass	Orchard Grass	* Average	Blue Grass
Water	70.80	80.00	73.20	73.00	74.20	65.10
Ash	2.10	1.72	2.50	2.00	2.10	2.80
Crude Protein	4.40	4.94	3.10	2.60	3.80	4.10
Crude Fiber	8.10	4.70	6.80	8.20	7.00	9.10
Nitrogen Free Ex'ct.	13.50	7.90	13.30	13.30	12.00	17.60
Fat	1.10	.74	1.30	.90	1.00	1.30
AMOUNT DIGESTIBLE IN 100 POUNDS.						
Protein	3.30	3.70	2.40	2.00	2.90	2.90
Fiber	4.30	2.10	3.60	4.40	3.60	5.20
Nitrogen Free Ex'ct.	10.50	5.20	10.50	10.50	9.20	14.00
Fat	.88	.58	1.04	.72	.81	.80
Nutritive Ratio	1: 5.1	2.3	6.7	8.1	3.5	7.0
Fuel Value Calories.	374	224	332	343	318	444

* Of clover, alfalfa, rye and orchard grass.

A study of the data here presented shows that the clover and alfalfa are richer in protein or muscle-forming ingredients than the grasses. The digestible content of this part of the food and of fat also in the average are identical respectively with those of blue grass, which, on the other hand, contains a much higher percentage of carbohydrates noted for the other foods represented in the table.

The blue grass is, then, a more carbonaceous food than would be a mixture of the other fodders mentioned. If a dairyman has at his disposal all these feedstuffs, he would not be feeding to the best advantage in using equal amounts of each. In fact, it would be impossible to so produce a balanced ration. A good proportion would have about one-half to five-eighths of clover, and with the remaining fodders balance the ration.

A change from barn to pasture will, in the majority of cases, result in the improvement of the milk, and to a slight extent the quantity also. This fact only tends to corroborate the statement previously made that luxuriant pasture is the natural food for dairy cows.

Additional Foods.—There are not many places where the pasturage is such as to admit of its constituting the sole food of the animals. In some cases the pasture leaves nothing to be desired as regards quality, but it is too small to accommodate all the cows of the dairy. It is then that the feeder, in order that *all* the animals may have some green feed, has resource to what is termed soiling, that is, cutting the fodders green and feeding them as such. This is a much more economical method of feeding than pasturing, in that, from the same area more animals can derive nourishment; but the cost of labor of cutting and feeding must be taken into account. Soiling is generally supplemented by a grain ration, more particularly if the quantity of the soiling crop is limited.

Professor Phelps of the Storrs Agr. Exp't. Station (Conn.) has conducted experiments in this line of investigation during the last three or four years, and he summarizes thus: Under the soiling system more stock can be kept on a given acreage than by pasturing; much of the expense of fencing is saved; nearly all of the fodder given is available for the formation of products, as there is no waste of energy in searching for food, and the manure can be preserved free from waste.

Forage Crops.—The best crops for soiling are those rich in nitrogenous matter. Although smaller crops are usually obtained with the legumes (clover, peas, etc.,) than with fodder corn, the fodder from the legumes is much richer in nitrogen and hence of more value in the production of milk, cheese, butter and beef. The legumes, being nitrogen collectors, are able to obtain much of their food supply from the air and subsoil. They add to the fertility of the soil by the decay of their roots, stubble and leaves, which are left in and upon the soil when the crop is harvested.

The more extended use of fodder crops like the clovers, field pea, cow pea, vetch and alfalfa is a matter which should receive the thoughtful attention of farmers.

The object of the feeding experiment was to compare fodders containing relatively large proportions of protein with those containing relatively small quantities, in their effects on butter and milk production. Those high in protein were mainly leguminous fodders and consisted of oats and peas, clover, soy beans, cow peas, rowen, and barley and peas. Those lower in protein belong to the cereal fodders and consisted of oat fodder, Hungarian grass and corn fodder. Seventy pounds of most of these crops were fed per cow daily, although eighty pounds of the corn fodders were used. Two pounds of wheat bran and one pound of cornmeal were fed per cow daily, in connection with the green fodders.

The green fodders were usually cut and hauled to the stable every other day, two days' supply being weighed at one time. The animals were stabled at night, and fed in the mangers night and morning, and had the "run" of a small yard through the day.

The best results on quantity and quality of the products were obtained where rations with relatively large amounts of protein were fed. The experiments seem to indicate that rations containing a larger proportion of digestible protein than that called for by the commonly accepted standards are to be preferred. Large nitrogenous rations are especially important early in the period of lactation, when the productive capacity of the cow is most heavily taxed. The quantity and quality of the products may be improved by the use of foods rich in protein, and the manure is more valuable than where starchy foods are fed.

Dry Feeding.—If the farmer or dairyman practices dry feeding he can vary the composition of the ration in a number of ways, being limited by the adaptable crops of his region and also by the prices of the different concentrated foods at his command.

Probably no better ration could be made up, where dry feed is used, than one consisting of alfalfa and the grain hays, for the coarse part of the feed, and bran or middlings, with a small amount of one of the oilcake meals for the concentrated portion of the ration.

Caution must be observed when such foods as the oilcake meals form part of the ration, as too great an amount of the meals would in a measure have a tendency to taint the milk and butter.

Feeding Fat to Cows.—Many experiments have been made along this line of work, both in our own country and abroad. In the United States the New Hampshire Agricultural Experiment Station has made some extended trials, in which cotton-seed oil, palm oil, cocoanut oil, oleo and stearine were added to a ration composed of hay and ensilage and a grain ration of 8 pounds of equal parts ground oats and middlings. The oils were fed in turn to the three different cows in periods of two weeks each. The conclusions noted were: That the first effect of an increase of fat in the cows' ration was to increase the per cent of fat in the milk. That with the continuance of such a ration the tendency was for the milk to return to its normal condition. That the increase of fat is not due to the oils, but to the unusual character of the rations. That the result of feeding oils tends to con-

firm the conclusions that the composition of cow's milk is determined by the individuality of the cow, and that, although an unusual food may disturb for a time the composition of the milk, its effect is not continuous.

In Scotland similar trials were made by Prof. Spier, who summarizes them in stating the proportion of butter fat is very little influenced by the foods containing a large percentage of oil, such as linseed or cottonseed cake, nor yet by albuminous food, such as the bean or pea meals, etc.

Prof. Wing of the Cornell station also pursued investigation in this direction and presents the results of his labors in Bulletin 92 of the Cornell station. He found that there were no very marked changes in the percentage of fat and yield of milk in the period when the cows were on a full feed of tallow (two pounds). "While there are slight variations in the per cent of fat, they rarely reach one-half of one per cent, and, what is of more significance, they are not uniform. Some of the cows gave richer milk and some poorer on a full feed of tallow than they did before or after. There was no appreciable gain in weight. It is of interest to note that the average daily yield of milk and the per cent of fat for each cow, two months *after* the close of the experiment, was practically the same as at its *close*. These results were obtained with ten different cows, of various ages and periods of lactation, extending over a period of ten weeks, for at least six of which they ate two pounds per day per head of tallow.

Sugar Beets as Stock Feed.—An experiment was made at Cornell with the view of determining the value as a stock food of sugar beets, compared with that of mangels. Five different varieties of sugar beets were used in the tests—one row for each variety—and three rows of mangels. The yield was as follows:

Five varieties of sugar beets averaged 23 tons per acre; three rows of long red mangel averaged 31 tons per acre; a difference of 36 per cent in favor of mangels, though one variety of sugar beet yielded considerably more than the mangels. Moreover, it is twice the labor to harvest sugar beet, so that it would seem clear that if the roots are to be raised for stock, so far as yield is concerned, mangels are much to be preferred to sugar beets. Below is shown the average composition in food constituents of two analyses each of mangels and sugar beets:

	Sugar Beets.	*Mangels.*
Water	86.18	90.32
Ash	.78	.72
Crude Protein	1.12	1.10
Ether Extract (fat)	.10	.12
Crude Fiber	.95	.67
Nitrogen-free Extract	10.87	7.07
Total	100.00	100.00
Nutritive Ratio 1:	10.8	7.3

It will be seen that the main difference in the two is in the less amount of water and the greater amount of nitrogen-free extract (sugar) in the sugar beets.

The figures for the total dry matter in the beets and mangels, as shown by the analyses, indicate that the yield per acre of dry matter is practically the same in both, the amounts being 3.19 and 3.04 tons, respectively.

Steer Feeding.—Almost every dairyman will at times have some cows which are not profitable as milkers and which he wishes to fatten for the butcher. He will find it more to his advantage in such cases to use a well-balanced ration.

This point was tested at the Maryland station with the following conclusions:

That a well balanced ration produced more gain and more profit than a poorly balanced ration.

Steers fed a well balanced ration had a higher value per pound than those fed the poorly balanced ration.

That the ordinary corn and cob meal used by the farmers are unprofitable and need the addition of some highly nitrogenous food, such as wheat bran and cottonseed meal, to make it profitable.

THE POULTRY YARD.

Notes From the Poultry Keeper.

About Breeds.—The breed that succeeds in finding a place in the affections of the farmer is the one that possesses hardiness, egg production and market quality. Ornamental breeds may do for the show room, but they will exist in limited numbers only, while the less gaudy but useful breeds will be scattered far and wide over the country as producers of eggs and chicks. There is no reason why the useful bird should not be beautiful also, but its beauty should not take the precedence. Some of our established breeds have stood the test of years, and are as popular to-day as ever, while each year witnesses something new added to the list, as there is no limit to improvement and advancement.

Tonics.—It may be stated that a healthy fowl needs no tonics. The best way to use a tonic, if it must be given (and some persons use them whether necessary or not) is in the drinking water. A teaspoonful of red pepper in a peck of food is sufficient, should it be used, but a better substance is a teaspoonful of tincture of iron in a gallon of drinking water. If any of the birds are sick, use a teaspoonful of a solution of permanganate of potash to each half gallon of water until the whole flock is healthy again, as it will at least assist in preventing the spread of disease.

To Keep Eggs.—When eggs are placed in an incubator, those that contain no germs of chicks, although kept at a temperature of 103° for two weeks, will be nearly as good in appearance as when they were placed in the incubator. When eggs are to be kept for higher prices, therefore, remove the males, and use only eggs from hens not with males. That is the great secret of keeping eggs. Put them in a cool place and turn them half over twice a week. They may be in boxes or on racks, or arranged in any manner that permits of turning them easily. They should be good and nice looking until Christmas, if kept sufficiently cool—say, about 60°.

Feeding.—Feeding too often is a serious mistake. If the hens are in good condition for laying, they will thrive much better if compelled to come off the roost in the morning and scratch for their breakfast than if they walk up to a feed trough and fill their crops. The morning feed of grain and seeds may be scattered in the litter after they are on the roost at night, so that they can begin as early in the morning as they desire. Before going to roost at night they may be given all they can eat. They will digest all that the crop will hold before morning.

The Best Dust Bath.—During the summer season the best mode of providing a dust bath is to dig out a space in the poultry yard, 3 feet square and about 6 or 8 inches deep. When the dirt is dry, sift it back into the place from which it was taken, and when so doing, sprinkle a little carbolic acid over it, to give it the characteristic odor. After each rain, stir the dirt and make it fine, but it need not again be sifted. The hens will resort to it and rid themselves of lice. If the poultry house is kept clean and a dust bath is provided, the hens can keep their bodies free from lice with its use.

Large or Small Hens.—Two Brahma or Cochin hens, weighing nine pounds each (eighteen pounds for the pair), will require fully as much room on the roost as three small hens weighing six pounds each, and if the tables of food equivalents and amounts to sustain life according to live weight are correct, the three hens will consume no more food than two large ones. But they will do more, however, as they will lay three eggs, while only two eggs can be secured from the large hens. Here, then, is a gain of 50 per cent in eggs in favor of small breeds, because they cost no more than the same weight of large fowls, but being more numerous, they consequently produce more eggs.

Meat for a Flock.—It is not advisable to feed meat alone to fowls, unless they have a forage where grain and grass may be plentiful; but as we have been asked how much meat or bone should be given daily, we will state that one ounce of lean meat a day for each fowl is considered about the quantity, but if forage is good and plentiful, an allowance of one pound of meat to twenty hens or half a pound of pounded green bone will answer.

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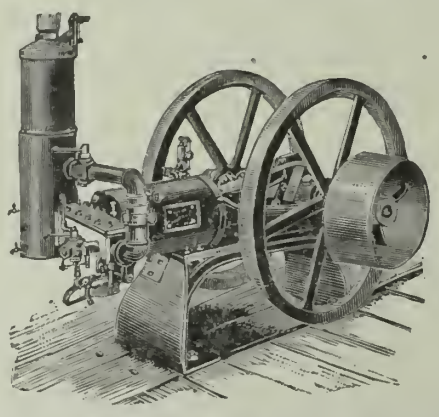

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THIS IS WHAT THEY CAN DO:

Will furnish power for one-tenth of a cent per horse power per hour. It is the cheapest power ever produced, as shown in the following table, and which is based upon a test of ten hours' run with one of our five-horse power Gasoline Engines, using gasoline (74°), coal gas, common domestic coal oil, crude petroleum, asphaltum base, crude petroleum, paraffine base, as follows:

Coal Gas, ten hours' run, 1000 feet	$2 00
Gasoline (74 deg.), ten hours' run, 8¾ gallons @ 14c.	1 25
Coal Oil, ten hours' run, 7½ gallons @ 10c	75
Crude Petroleum, asphaltum base, 16 gallons @ 3c	48
Crude Petroleum (36 deg.), paraffine base, 13 gallons @ 5c	65

On the crude petroleum with asphaltum base we had an over-product of 7 gallons of asphaltum; the market price is 3 cents per gallon=21 cents. This deducted from the first cost of the crude petroleum for ten hours' run leaves a net balance of 27 cents. And from the crude oil with a paraffine base we had an over-product of 3 gallons of good lubricating oil, which we consider equal to any we have ever used, but will estimate its value conservatively at 20 cents per gallon, making 60 cents; this deducted from the first cost of the crude oil leaves a balance of 5 cents, total cost of running ten hours.

It will be readily seen that the operation of these Engines with crude petroleum reduces the cost of operation to a minimum. Crude petroleum with paraffine base at 1-10c per horse power per hour; on crude petroleum, asphaltum base, ¼c per horse power per hour; on domestic coal oil, 1½c per horse power per hour; and on gasoline, 2½c per horse power per hour.

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For piece grafting; one bushel Green Gage seed.
ALTA LOMA NURSERIES, Alta Loma, Texas.

TRACK AND FARM.

The Horse Product.

The breeding and rearing of horses as an ordinary farm industry on farms where there is no special skill employed is, says the *Southern Farmer*, going by. The common term "any mare is good enough to bring a colt," means failure to-day.

The report of the statistician of the Agricultural Department for January of this year gives the average value of horses at the following figures: Under one year old, $13.49; under two years old, $20.20: under three years old, old, $29.30; over three years old, $42.80. These figures, of course, include such horses as bring hundreds of dollars each, good stock, and in demand for luxurious purposes. If this class were excluded the average value, of course, would be considerably lower, and, in fact, it is the case that colts of the common run under one year old are now quite unsalable, while $30 is a fair average price for the ordinary farm horse. At the same time the well-bred saddle animal or roadster will bring very nearly the same value as formerly, and the best draft animals have scarcely felt the depression in the values, as shown by the figures of the report. Doubtless this low value of the common run of horses is due to the discharge of many thousands of them from service on the town and city horse railroads, which have been supplemented by the use of steam, either directly in the case of the cable traction roads, or indirectly by the trolley and the electric force. Necessarily, when a demand is fully supplied for any needed commodity and this demand is suddenly decreased, the condition presented to the breeder of common horses demands thought and action. Beyond a question, there will be a great number of mares go unbred this spring, for the colt will hardly pay the service fee. Thus the stock will begin to lessen immediately, and it will be but a short time until some recovery of value will take place by this disappearance of the poor stock.

How Will Values Advance?—This recovery will be greatly helped by the better breeding in the future. It is to be remembered that not every farmer can breed a good colt, and this for want of the right knowledge of the principles of breeding. So that, while the poorest class of horses will soon disappear, the better kind will not at once fill the vacancy, and some time will elapse before the supply will overtake the demand, and, while this supply will doubtless be decreased for some years to come, the demand will be always increasing.

The Horse Will Stay.—It is not to be thought that the "passing of the horse" is about to be accomplished, and that this useful servant of our race is to be wholly done away with. There is, and always will be, work for horses to do, and history has once proved this in regard to the railroads, once thought to indicate this abolition of the horse years ago; for, instead of this, these railroads made a necessity for more horses, and so it will doubtless be again that the great mechanical improvements made available for horse work will really find employment for still more horses in time, as indispensable helps to the greatly increased traffic.

A Higher Level.—Thus the breeding of horses will be put on a higher basis. Good horses will be wanted to minister to the service of the luxurious, as well as to become a medium between the steam carriage and roads and the crowds of producers and consumers for the purposes of collection and distribution. For this service large animals will be needed, and for other uses the more showy and fleet ones, all of which will bring far better prices than the common farm-bred horses they have displaced. Farmers must thus spend time occurring between the intervals in studying this new business. They must themselves improve their own stock, and while the values are low this opportunity should not be missed. The blind, the halt, and the unthrifty are to be got rid of as of no further use to anyone as breeders. Indeed they are of little value as workers, for the better horse will cost no more to feed than the castaway, discarded scrub, while it will easily be twice the value for work and more than twice again as the dam of a good colt.

Joint Ownership of Sires.—More attention is to be given to the choice of sires. The cost of the service of a good sire will always be made up twice over in the value of a colt, and the European fashion of associated ownership or employment of sires for the real improvement of stock will become a necessity of the care. Our personal sense of ability to manage such affairs for ourselves will forbid the interference of the Governmnnt in this matter, and the public Government studs of Europe will be imitated here by associated establishments by the farmers themselves, who will purchase or hire some acceptable sire. It will be, in fact, the entering wedge, perhaps, of a general system of associated effort by farmers for the improvement of their condition and the protection of themselves from competition of other industries carried on cheaply and profitably by a similar combination. Even this instance, one among many, points to this inevitable result in the end soon to come for the relief of agriculture. For this is only one of numerous disabilities that are due to the isolation of farmers and their inability to compete on equal terms with other industries fortified and strengthened by business combinations.

Every farmer who must keep horses should make it a part of his system to keep good breeders from henceforth; large draft animals will never want for purchasers in the cities; good saddle animals and drivers will always be equally in demand, and the farmers who will turn their attention to this part of their industry will unquestionably find an early reward for their enterprise.

To Drive Flies Out of Stables.

A correspondent gives to the *Rural New Yorker* the following method of driving flies from the stable: Take one ounce of camphor gum, one ounce of corrosive sublimate, one pint of oil of turpentine; grind the sublimate thoroughly, put into a strong bottle, and add the camphor gum. Pour on the turpentine, and shake occasionally. It should be fit for use in thirty-six hours. Heat a piece of iron and drop a few drops on it in the stable. Flies may be driven out of the house in the same manner by dropping a few drops on a hot stove lid. By following these directions every other day, I think anyone will soon be rid of flies.

A Novelty in Sweet Peas.

The Sunset Seed and Plant Co. of 227-9 Sansome street, which has already done so much for the development of California floral interests, is introducing a new sweet pea, the "Red Riding Hood," which promises to be a great favorite. It is a new departure in form, is very rich in color and unsurpassed in fragrance. Its stems are very long, it is very hardy and it flowers early.

—The Redlands Orange Growers' Association shipped this year 6,000,000 pounds of oranges of which about two-thirds were navels. The total number of boxes shipped was 83,728, or 279 cars of 300 boxes each. The last shipment for the season was made last week and consisted of two cars of Valencia lates, which were sold at $3 per box f. o. b.

$100 Reward, $100.

The readers of this paper will be pleased to learn that there is at least one dreadful disease that science has been able to cure in all its stages and that is Catarrh. Hall's Catarrh Cure is the only positive cure now known to the medical fraternity. Catarrh being a constitutional disease, requires a constitutional treatment. Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system, thereby destroying the foundation of the disease and giving the patient strength by building up the constitution and assisting nature in doing its work. The proprietors have so much faith in its curative powers that they offer one hundred dollars for any case that it fails to cure. Send for list of testimonials. Address.

F. J. CHENEY & CO., Toledo, O.

☞Sold by Druggists, 75c.

—The Corral Hollow Railway is in active operation, trains running between Stockton and the mine. Jos. Treadwell says he will begin taking out coal August 15th, and will employ 2,000 men. The present thirty-six miles of railway will, he says, be ultimately extended to San Francisco.

The Pace that Kills.

Fast Work and Fast Eating Make Three Score Years and Ten a Ripe Old Age These Days.

From the Cincinnati Enquirer.

The American people live too fast, eat too fast and drink too fast. This has brought upon many of us a train of nervous and stomach disorders that are very difficult to manage. Investigation and chemical analysis to discover such compounds as will help those suffering from such ills has resulted in the discovery of Dr. Williams' Pink Pills for Pale People, which has taken very high rank as a specific remedy.

H. P. Owens, a traveling man thirty years of age, who is well known in this community and generally liked because he is a bright, energetic young fellow, resides with his mother at 335 Central avenue, Cincinnati, Ohio. He has been a victim of dyspepsia, which took the form of continuous constipation, and, strangely enough, his mother suffered from the same trouble. Mr. Owens testified to the merits of Pink Pills in a most enthusiastic way, and said to the *Enquirer* reporter:

"I am glad to say anything I can for Dr. Williams' Pink Pills, because they did me great good and other people ought to know of their virtues as a medicine in stomach troubles. It was some time ago when I felt a heavy feeling in my stomach and I grew very constipated. I did not consult a doctor, but having heard of the Pink Pills I bought a box of them. In two or three days the heavy feeling in my stomach disappeared and my bowels were regular. I did not have to use more than a box of them before I was well. Since that time I have only occasionally been troubled with constipation, and I never get worried because I know just what to do. Mother was also troubled with indigestion and the Pink Pills did the same for her they did for me—cured her, didn't they, mother?"

When appealed to Mrs. Owens answered: "That is right. I found that it was a great medicine, so easy to take and so quick and lasting in its results."

Mr. Owens continued: "I believe that these pills are also good for nervousness. When I had my stomach trouble I was also quite nervous, and that disappeared with the dyspepsia. The Pink Pills were all that is claimed for them. You can make any use of this testimonial that you see fit."

H. P. Owens has occupied several positions of trust in this city. He was for a time an employe of the *Commercial Gazette*. He will go on the road in a few days for a prominent business house here. Mrs. Owens is quite as enthusiastic as her son about the Pink Pills, and her host of lady friends can verify her good opinion of his wonderful remedy if they feel disposed to do so at any time. Where the testimony is so general and unanimous as to the excellencies of Pink Pills as the *Enquirer* has found it to be there is certainly good reason to believe all the good things said—about the safe and simple remedy.

Dr. Williams' Pink Pills for Pale People contain all the elements necessary to give new life and richness to the blood and restore shattered nerves. They may be had of all druggists or direct by mail from the Dr. Williams Medicine Company, Schenectady, N. Y., at 50c per box or six boxes for $2.50.

Horse Owners! Try GOMBAULT'S Caustic Balsam

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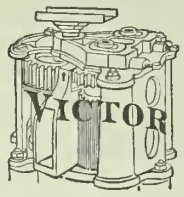

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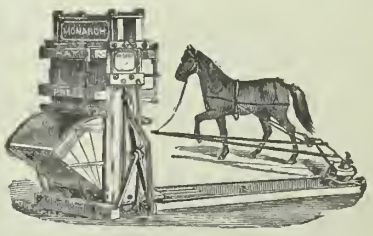

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THE HOME CIRCLE.

He is Just Away.

I can not say, and I will not say
That he is dead—he is just away.

With a cheery smile and a wave of the hand
He has wandered into an unknown land,

And left us dreaming how very fair
It needs must be, since he lingers there.

And you—oh, you—who the wildest yearn
For the old-time step and the glad return—

Think of him as faring on, as dear
In the love of there as the love of here.

Mild and gentle as he was brave
When the sweetest love of his life he gave

To simpler things, where the violets grew,
Pure as the eyes they were likened to.

The touches of his hands have stayed
As reverently as the lips have prayed;

When the little brown thrush that harshly chirped
Was dear to him as the mockingbird;

And he pitied as much as a man in pain
A writhing honey-bee wet with rain.

Think of him still the same, I say;
He is not dead—he is just away!

—James Whitcomb Riley.

A Severe Experiment.

It was an ill-tempered day, with a fine, penetrating mist and a raw east wind. Every one who came into the store shivered as the warm air struck them, and the east wind seemed to have possession of all their tempers.

Caleb Wilson, the proprietor of the store, was at best a gnarly old gentleman with an uncertain disposition, which was growing more uncertain as the day progressed and his trials accumulated. Mrs. Jones could get everything she priced "a mite cheaper over to Harmon's." Mrs. Austin, his best customer and butter-maker, brought in doubtful butter; and he dared not tell her so, but meekly took it at his highest price. Mrs. Sampson returned a dress because she found a "damaged spot right in the middle of the piece." So it had gone all day.

Just at nightfall Bruce, his only son, a boy of fifteen, came in, and stood by the show-case, talking to a mate in the vicinity of Mr. Wilson, who was marking goods behind a stack of muslins.

"I feel awful bad about their changing our arithmetics," the boy was saying. "Pa just can't afford to get me one, I know."

"Yes, 'tis bad for some of you fellows," Bruce answered in a lofty tone. "Of course, with me it is different. Father can get whatever I want."

The old man's face grew grimmer, and his thin lips set in a displeased line. "So, so, young man," he muttered: "you are crowing pretty loud." Bruce went on: "I tell you I am glad my father's rich. I'd 'most rather die than go dressed as some of the fellows have to, and dig into all kinds of work."

"Guess you could work if you had to," the boy replied rather tartly.

"Yes; but I don't have to," Bruce retorted with a laugh.

"You don't, sonny? Well, we'll see," Mr. Wilson muttered again, peering round the muslins at the spruce, rather supercilious-looking boy. Then his gaze wandered down the length of the long, well-filled store. It was the largest in the county; and the honest, energetic old man had the patronage of the entire country-side, in spite of his surly ways. He gazed long down into the dim interior, until his clerks commenced lighting up.

"I am tired of keeping store, anyway," he said, half aloud. Then, roused sharply, "Never mind lighting up," he called to the two young men. "Come here." He moved to the desk, and they followed him. "I shan't need you any more. Here's a month's wages that will last you while you are hunting another job," he said, shoving the money toward them.

"Why," they both began in astonishment, "have we done anything?"

"No, no, boys: you are all right. I will give you good recommends. Hope you will have luck getting a place."

He turned from them and commenced to pile up the books on his desk. They stood an instant in blank amazement. "Shan't we come back for the evening?" one of them ventured. "No, no: you can go now," he answered impatiently.

"Why, father, what does this mean?" questioned Bruce, who had been an interested auditor to these proceedings. His father, vouchsafing no answer, went around carefully, closing the great shutters, setting the burglar-trap shot-gun, and double bolting the doors. He put the front door key in his pocket.

"Bring the account books from the desk," he said to Bruce. The boy obeyed. Then he extinguished the light, and they groped their way in the darkness to the back door. "Take the books to the house: then come with me," was the next command.

He carried them to the big white house just across the alley. Then down the long village street they went rapidly, with coat collars turned up in slight protection against the driving mist. Finally, they stood on the bridge over the river just above the dam. The fall rains had swollen it into quite a torrent. Mr. Wilson took the two big store keys from his pocket, and handed them to Bruce. "Throw them in," he said.

"Into the water?" the boy gasped. He was very white; but, knowing his father, he said no more, only obeyed.

"Now, young man,"—Mr. Wilson faced him with a keen gaze on the boy's startled countenance,—"that store will stay shut until I see fit it should be opened. It may be five years. It may be fifty. Meantime, I calculate I've got about income enough from other things to keep us off the town. So, after this, if you get anything better than blue jeans, you'll flax around for it."

Such a mystery had never befallen the people. The whole country went wild over it. But the blank, wooden front of the big store and Mr. Wilson's grim face were alike imperturbable. Mrs. Wilson and the two married daughters, after vain questioning and many tears, dropped it meekly. Bruce, who alone held the key of the problem, was naturally silent; but a bitter desire to shame his father grew in his heart.

"Guess when he sees me in rags, he'll find some way to fix it up. I'd like to know what work he expects me to do, anyway," he thought, sullenly.

As the months went by, in spite of his mother's care, his clothes grew shabbier and shabbier. His shoes were actually ragged, but his father seemed not to notice it. Bruce had always been unpopular among the boys for his "bossy way" and his "airs." So in his adversity he had no friends to turn to. The mysterious closing of the store and the pinched way in which the family appeared to live was "good enough for him" in their eyes; and the boy's school life was sometimes almost a purgatory.

"'Most die if you had to go like some of us fellows, wouldn't you?" jeered one of them one day.

"You'll have to stay home in a blanket pretty soon," chimed in another.

"Mr. Jenkins wants a boy up in his tanyard. Better try for the place," suggested a third.

"When you see me in Jenkins's tanyard, you'll know it," shouted Bruce, boiling with passion. "My father's got money enough"—

"Oh, bother money, Bruce Wilson!" broke in one of the other older boys. "You make me sick! You weren't any good with it, and you ain't any good without it. There's one thing money can't buy and you haven't got, and that's sense."

He slunk away from the laughter of the boys, with black rage in his heart. "'Twas all his father. He'd make him sorry," was the whole thought of his life. Daily the neat, gentlemanly boy grew more careless and worthless.

"He looks and acts like a tramp," his sister said one day to his mother. "Can't father fix him up some? It might give him a little self-respect."

Mr. Wilson coming in, heard her. "No, he can't, he answered." "A self-respect made out of clothes isn't going to stand by a fellow. I'll own that I'm disappointed in the boy. I thought he was worth saving; but I guess he ain't, I guess he ain't." His voice quivered, and he turned to the window.

I think just that break in his father's voice went a long way toward saving Bruce Wilson, for he was in the next room and heard it all.

"Why, I believe he cares for me. He honestly cares, and isn't doing it for meanness," he thought, with a softening throb in his heart. He lay on the lounge a long time with his head buried in the pillows. When he got up, there was a look of grim determination on his face, very much like his father's.

That night he announced at the tea-table: "I've been up to see Mr. Jenkins. He will give me my board and fifty cents a week while school lasts. In vacation he will give me two dollars."

Mrs. Wilson dropped her fork in dismay. "Why, Bruce, that's the dirtiest, awfullest-smelling place; and Mrs. Jenkins has the name of being a dreadful housekeeper."

"Yes, it's a pretty tough place; but 'twas all the job I could get. I'll have to ask you, father, to advance me money enough for a pair of overalls and a wamus. You know you promised me blue jeans." Mr. Wilson, without a word handed him a dollar and a half.

Monday morning Bruce commenced work. The horrible smells sickened him. Mrs. Jenkin's cooking spoiled even his appetite; but there was a good deal of his father in him, after all, so he went on without a thought of giving it up.

"Yes, I am 'Jenkins's boy'; and I expect I do smell of the tan-yard," he remarked, cheerfully, to the boys. "And, if any of you fellows object, I'll fight it out with you."

Somehow, though, "Jenkins's boy" grew in popularity with the "fellows," in spite of his hands, and sometimes even his rather objectionable smell.

All the long summer he lived and worked at the tan-yard. Mrs. Wilson missed him sorely, and shed many tears in secret; while Mr. Wilson contracted a habit of strolling up to the yard, and from behind the safe shelter of the big piles of bark watching the boy with an anxious countenance.

"I'm afraid he's working too hard this hot weather," he said to his wife. "It seems sort of unnatural, anyway, to have the only boy we've got boarding away from home."

"Everything has been unnatural for 'most a year back, ever since you took that notion to shut up the store," she she answered tearfully.

"Well, we'll see, we'll see. I ain't over the notion yet," was the discouraging rejoinder.

In the fall Bruce obtained a situation in the rival store of the village, which was doing a flourishing business now its formidable opponent was out of the way. His terms this time were his board and ten dollars per month. The winter dragged slowly and lonesomely along for the old couple. Still Mr. Wilson bided his time.

One morning in the spring every billboard in town and every fence the country over held big posters announcing, in large, impressive letters:—

I, Caleb Wilson, having rested until I am tired,
Will open my store as suddenly as I closed it.
Old goods sold at cost. New ones, some over.
Hoping my friends will be as glad to see me as I am to see them, I am,
Your obedient servant,
CALEB WILSON.

"Ah! This is like living again!" he said to himself, as he felt the old, familiar floor under his feet, and the old, familiar piles of goods confronted him. He drew long breaths of delight as he bustled about, directing his help in the "redding up."

It was growing a little late when he put on his hat and went slowly down the street. Rather hesitatingly he opened the door and went into the other store. Bruce was alone; the proprietor had gone to tea. Some way he looked unfamiliar to Mr. Wilson. He had grown so, and the boyish look had left his face. It seemed, as he looked at him, that he had lost his boy forever. He could have gathered him to his heart in a strange excess of tenderness. The sudden tears welled to his unaccustomed eyes. He walked briskly up to the boy.

"Well, Bruce, does your board suit you?" he interrogated brusquely.

"Fairly," answered Bruce, with a smile.

"Good as mother's?"

"Well, no; it don't seem so to me. May be I am prejudiced."

"Get pretty good clothes?"

Bruce looked down at the plain home-spun. "Better than blue jeans," he answered, laconically.

"Well, you've flaxed around for them, haven't you?"

There was a silence. Then Mr. Wilson commenced again.

"I never could abide that man Harmon getting ahead of me. So, Bruce, if you will come over and work in my store, I'll give you your board and fifteen dollars a month this year and I'll send you to college next year. But you'll have to keep on flaxing." He came nearer to the boy and said, in a low voice, almost appealingly: "Say, Bruce, you have got more sense, haven't you? And you've got over the notion that good clothes and a rich old father will make a man? Say, sonny, you don't think I was too hard on you, do you?"

"Well," the boy said, rather hesitatingly, "you did jump on a fellow pretty heavy; but—I guess it was worth it."

Then his heart fairly leaped from his mouth, for his father, his hard, unyielding old father, suddenly leaned over and kissed him full on his mouth, as he was kissed when he was a little child.—Jeanette Scott Benton.

Gems of Thought.

The perfection of conversation is not to play a regular sonata, but, like the æolian harp, to await the inspiration of the passing breeze.—Burke.

To be patient under a heavy cross is no small praise; to be contented is more; but to be cheerful is the highest pitch of Christian fortitude.—Bishop Hill.

He that hath truth on his side is a fool, as well as a coward, if he is afraid to own it because of the currency or multitude of other men's opinions.—De Foe.

Anxiety and worry are the friction of the soul, irritating, disorganizing and wearing out the delicate machinery of life. They dim the brightness and sour the sweetness of what might otherwise be the happiest life. They repel sympathy, alienate friendship and destroy love. They are productive of no good, and work only evil, both to self and others.

The universe rises into solemn grandeur and commands our reverence, not when we think of it as a theater of blind forces, or a vortex of whirling atoms—not when we regard it merely as a spectacle for eyes that open and wink a few times, then close in eternal sleep—but as a nursery, a home and a school for rational beings and as a temple in which they meet and commune with the

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DR.
PRICE'S
CREAM
BAKING
POWDER
Most Perfect Made.
40 Years the Standard.

infinite Wisdom, Goodness and Beauty. Hence the nobleness of man consists not so much in what he now is as in what he can become and in what he is made for.—Charles G. Ames.

Above all stands Jesus Christ, the great reality. His spirit has entered into all our history and is indissolubly a part of it. His law is at the heart of all that is noblest in our civilization. His influence has swayed and sways what is purest in our society. His character is the mark set for the nature of man to reach. History and contemporary life are as full of this real, living Christ as the earth and the air and the sea are full of the substances and forces with which the intellect of man is called upon to deal. To as many as receive him, to as many as buy the truth of his supreme revelation of God's will—to them does he give the power to become the sons of God. He is the light that lighteth every man that cometh into the world.—Rev. E. Winchester Donald.

Fashion Notes.

A particularly dainty costume is composed of a white serge skirt—or, if it be preferred, white alpaca—the seams buttoned over at either side, about half way down, with large tabs and buttons of the new-old variety in white enamel and fine paste.

Hosiery in bright plaids is a novelty, and one that promises very well. These hose are worn with summer dresses and with dark or black shoes. There are some handsome styles in boot hose. These have either dark feet and light tops or light and dark tops, the former, however, being preferred.

As much as the Frenchwoman delights to indulge in a tailor-made gown, it never in Paris has the severe simplicity of London or New York. The Parisienne can no more help softening the rigid look of these mannish costumes than any woman can help screaming at a spider or a mouse. A bit of lace, a soft roll of silk or a twist of ribbon somewhere about the otherwise strictly tailor-made costume effectually does away with its stiffness, and, though madame or mademoiselle thinks she is quite tailor-made, she has slipped in a graceful touch that does not belong to these severe costumes.

The craze for wearing white kid gloves on all occasions is now over, and people of good taste and style now wear the pale shades of straw, pearl gray or mastic. White gloves make the hand look large, and give the effect of those worn at a village wedding.

Hairdressing is changing, and the French style, wide and rather low, is rapidly gaining ground. The hair is crepe, and loosely drawn together, then tied tightly and coiled round. Small side combs are much used on each side of the coil.

Ribbon is immensely used now, especially satin, shot silk and the delicate chine crepon and soft silk, with misty flowers. Pretty fronts for wearing with the open coats are arranged with two lengths of ribbon, from 3 to 5 inches wide, fastened to the neckband, and again at the waist, forming a simulated coat, with full lace or chiffon filling in between. Another and narrower ribbon forms the waistband, and is finished off in one central or two smaller bows. This is easily managed by any one, and the front constantly varied.

Never was lace so profusely used or so varied in design. From narrow guipure insertions to wide flouncings in cream, ecru or butter color is it to be seen on every article of fashionable dress. It is now made in grass cloth, to trim the grass cloth gowns and blouses that are to be in the acme of popularity in the hot days. It can be had in insertions, edgings and piece lengths, and has a color beneath. This is not strictly lace, but it goes in the same category.

Lady (who has a sick husband)—Don't you think, doctor, that you ought to bleed my husband?

Doctor (absent-minded)—No, madam. Not until he gets well.

Robin Farmer Boy.

Robin is a merry lad; Robin is a rover;
He drives the cows afield at dawn, knee-deep amongst the clover;
He shakes the hay fall'n in the swath, and holds the pail o' drink;
He helps the dog hunt meadow-holes, and mocks the bobolink;
He takes the ten-quart pail and laughs, and deep amongst the woods,
He finds the berries big and black, and starts the partridge broods;
He knows where delves the bumble-bee, to hide his honey hoard,
And where the squirrels' granary is, beneath the loosened board.
Oh! Robin is a merry lad, and a sleepy little fellow,
When he drives the cattle home at night, and the cowbell's clank is mellow.

—Journal of Education.

About the Baby.

Here are a few important matters that every mother ought to know:

That during the first year the average gain in the weight of a healthy baby is rather more than twelve pounds, and in height eight or nine inches.

That in the case of delicate children, they derive great benefit from being gently and thoroughly rubbed all over—particular attention should, however, be given to the spine—directly after the morning bath.

That a child is impressed by and unconsciously imitates the individual who has charge of him; hence the great importance of selecting a suitable person as nurse.

That children should from an early age be taught to walk properly, so that they may not only grow up graceful, but derive the utmost amount of good from this most valuable form of exercise.

That the temperature of the nursery should be regulated by a thermometer, so that it does not exceed sixty-eight degrees, and never goes below fifty-five degrees.

That the leavings of baby's bottle should never be warmed up; when more food is required, have it made fresh.

That children should not be allowed to wear shrunken woolen garments, for they are too close to be really warm; loosely woven wool is warmer than a closely woven fabric and loose-fitting garments are warmer than tight ones.

That the tubing of a baby's bottle should never be cleaned with a brush, as the bristles are very liable to come out. An efficient substitute is a piece of white tape with a bodkin at the end.

That audible laughter is seldom heard in an infant under five or six months old, although it smiles at a much earlier age.

That tidiness should be insisted on in the nursery, so that it may come naturally, to the girl occupants at least, to love order and neatness.

That it is most important to teach children to eat slowly and masticate their food well.

That swimming is an excellent exercise for girls and boys, and helps to expand the chest and develop the muscles the body.

That no child can be healthy or happy if it is cold; therefore, summer and winter woolen clothing—of different texture, of course—should be equally distributed over the entire body.

Give the baby and each child a bed to himself. Have the sleeping room cool and clean, and as bare of furniture as a cell. See that the clothing of the little sleeper is loose at the neck, waist and arms, and keep his head uncovered.

If there is anything young animals cannot do without, it is fresh air, and babies get less than any other class.

Through the pores of the skin the body is continually throwing off poisonous vapors. If the head is covered with the bed clothing the unfortunate infant will be breathing bad air.

Fashion or no fashion, it is a cruel shame to trim or starch babies' clothing.

The average child suffers from over feeding and over dressing. Let him learn to be a trifle hungry.

Half the time the child cries he wants fresh air or fresh water. Wiping the lips of a crying baby with cool water will often sooth and refresh him.—The American.

DOMESTIC ECONOMY.

Hints to Housekeepers.

A handful of carpet tacks will clean fruit jars or bottles readily. Half fill the jars with hot soap suds, put in the tacks, cover, give vigorous shaking and rinse well.

Rain water will keep the skin soft and smooth and should best be used for the face; but, if it cannot be had, a handful of oatmeal thrown into hard water or a little powdered borax dissolved in the water is the best substitute.

A convenience designed for country houses, where no ice is to be had, is a large covered pail lined with charcoal. In this pail, if kept in a cool place, water is said to remain as fresh and cool as if just taken from the well.

If matches have been scratched on bare walls by careless hands, cut a lemon in two, rub the marks off with the cut end, wash the acid off with clear water, and, when dry, rub with a little whiting till the faintest mark is removed.

Table linen to look well should always be sprinkled and rolled at least ten hours before it is ironed. If good linen, it will not need any starch. A cloth to look well should not be folded with too many creases. One through the center lengthwise and then folded once again the same way will leave the cloth without any cross creases. When dry, roll the cloths, but do not fold.

The prejudice against cut flowers in the sick room is probably a groundless one. Flowers with a strong perfume, like hyacinths, lilies of the valley and others, might nauseate the patient by their strong odor, but a few simple blossoms are cheering in their effect, and especially so when the patient is fond of flowers. Do not allow flowers to stand more than a day in the same water unless there is charcoal in it.

A good way to prepare short stories for the use of invalids is to cut them from magazines for which you have no further use and mount them on strips of white muslin or cheese cloth with a good paste or mucilage. Cut the muslin wide enough for one or two columns. The story can then be rolled or unrolled without the fatigue of lifting a heavy book. Tie with a rubber band, or band of ribbon, and print the name of the story on the outside of the rolls.

Receipes.

Vanilla Custard Pie.—The whites of four eggs beaten to a stiff froth, two-thirds of a cupful of sugar, one tablespoonful of cornstarch, a little salt, one teaspoonful of vanilla, one pint of sweet milk.

Cocoanut Custard Pie.—Scald one pint of sweet milk, and turn it while hot on one-half cupful of cocoanut. Beat two eggs, two-thirds of a cupful of sugar and a little salt together. Add this to the milk and cocoanut. Bake in a deep plate.

Frosted Custard Pie.—Two-thirds of a cupful of sugar, a little salt, yelks of two eggs and one whole egg, a generous pint of rich milk. Bake in a deep plate. Frost the pie with the whites of two eggs, and flavor both the custard and frosting with lemon or vanilla. It is nice to flavor the custard with lemon and the frosting with vanilla.

Snow Eggs.—For five persons—ten eggs, eight tablespoonfuls sugar, one quart milk, a little vanilla; time, one-half hour; break the eggs one at a time (by doing this you will recognize a bad egg, and it will not spoil the others) slip the yolks in a saucepan and beat the whites apart; second, poach whites, spoonful after spoonful, in boiling milk (one quart of milk with four tablespoonfuls of sugar, a little vanilla), boiling quickly in a somewhat flat saucepan; third, let them drip and dispose in a hollow dish; fourth, mix the yolks with four tablespoonfuls of sugar and pour into the saucepan while stirring the warm milk where you have poached the eggs. Pour this sauce over the whites and cool whole in ice box; serve cold.

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XXXXX Finely Crushed Preserving Sugar—Beautiful, pure white, dry, in 100-lb bags only, per lb..... 5c

XXXX Fine Dry Granulated Sugar Any desired amount, from 1 pound to a ton, packed ready for quick delivery in 5-lb, 10-lb and 20-lb strong paper bags, 50-lb boxes, ½ bbls, bbls or 100-lb double sacks (the latter ship best) per-lb. 5c

We also supply the Refinery brand under their name at the Refinery prices in barrels, sacks or bulk, at 5¼c

The following continue to be "Trade Winners":

TAPIOCA.
Pearl, Flake or Sago, new and fresh, in any quantity, lb..... 3c

LUNCH TONGUE.
Rex or Libby, new 1-lb tins, each....20c

BAKING POWDER.
In 16-oz tins, Far West.....20c
Price's, 30c. Royal.....39c
Royal (limited quantity only), 4-oz, 10c; 6-oz, 15c; 8-oz, 20c; 3-lb, $1.05; 5-lb, $1.75.

CANDLES.
The regular Adamantine, or 10-oz Electric, 25 for 25c, or each 1c

STRING BEANS.
No. 1, per can..... 5c
Limit, 12 cans.

SARDINES.
New Domestic, 3 tins for.....10c

PATENT SAD IRONS.
To make glad the heart of any woman who desires to lessen the labor of ironing. Carries a small tin tank to contain alcohol, which burns slowly inside the iron; keeps it constantly heated by revolving, thus doing away with the necessity of building a fire for a small ironing; always convenient and ready; made to sell for $5; our price.....$1.50

ROLLED OATS.
Fresh and Good, in bulk, lb.....2½c

RICE.
Best Table, in any quantity, from 1 pound to 1 ton, lb..... 4c
Good Eastern, broken, lb..... 3c

BROOMS.
Regular House, good for money, well made, each 10c

FLOUR.
50-lb bags, S. C. S. (our brand), guaranteed best flour in California, per bag.....89c

SAL SODA.
For Washing, 25 lbs for.....25c

CHINA GINGER.
Per jar, large, best.....30c

GUAVA JELLY.
New, made from the pure fruit juice and pure granulated sugar, and fresh guavas grown in the Sandwich Islands; possesses the natural wild flavor, glass.....12½c

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You Cannot See Fire.

It is a general idea that visible flame is fire in its most notable form. But in fact it is not fire at all. You look into a grate in which soft coal is burning. The flame is leaping in strange fantastic form 15 or 20 inches upward from the coal, and with it a good deal of black, sooty smoke. The sooty smoke and the flame are one and the same, with only a difference of temperature. The soot which forms the flame is red hot. It is soot half burned, or, rather, heated to incandescence, but not yet burned—not yet really burned at all. Every particle of the flame is a red-hot coal or particle of carbon. The real fire we do not see; no eye has ever seen real fire. The instant that the carbon atoms become really burned, eaten up by the oxygen of combustion, they are invisible. A particle of the red-hot soot which forms flame contains very many atoms of carbon, and the oxygen eats at them atom by atom, and this atom-by-atom seizure by the oxygen is the real burning, for which the red-hot state is only the preparation.

A soft-coal fire which has died down and apparently gone out may be found twenty-four hours later with red-hot coals "kept," we say, but in fact still burning. The soft ashes closely wrapping them do not keep them alive or burning; they keep them hot enough to let the oxygen go on nibbling furiously at them. The oxygen works inside of the ashes without any trouble, provided only that the red lumps do not get too cold. It, of course, makes fresh heat all the time, and the close wrap of fine ashes keeps the heat right there. The process of such burning is a slow one, but it answers to keep the coal burning.

In burning three pounds of carbon, the heated state of which gives us flame, the fire work is done by eight pounds of oxygen. The oxygen we do not see. The carbon we see only just before it is burned; and the result of the burning is eleven pounds of the compound of oxygen and carbon, which the eye cannot see. When a monster steamship burns 300 tons of carbon in coal every twenty-four hours, that means that the 300 tons of carbon are made red hot for burning, and are then consumed by 800 tons of oxygen, with the passing off up the chimneys of 1,100 tons of the compound of carbon and oxygen. The heated carbon not yet burned is intensely visible, but as it burns, atom by atom, it ceases to be visible, and the compound of carbon and oxygen is no less invisible, being a gas, each molecule of which consists of a molecule of oxygen (composed of two atoms locked together) into which one atom of cerbon has been swallowed, making a three-atom molecule.

The first belongs wholly to the oxygen. An atom of oxygen is in a state of motion, of spin or whirl like a buzz-saw, only many thousand times faster. These atoms unite in pairs, forming molecules, which have the same spin, only somewhat less swift. It is this lightning spin of the oxygen molecules by which each one devours an atom of carbon, with the effect which we call fire; only the real fire is back of what we see.

The oxygen of the air is a solid cloud of fire; it is essential fire which we breathe; a terrific conflagration only means that this universal fire has found stuff of some kind heated to the degree which prepares it to be consumed. In every case of fire the operation is that of oxygen consuming the atoms of combustibles through that intensity of whirl or spin which all oxygen has, and which is the essence of fire. But the oxygen atom is not a solid atom. It is rather a whirlpool of electric substance or fluid, composed of inconceivably fine atoms in a state of inconceivably rapid whirl. We see a fire start, but in fact there is no start. All the motion that may make to-morrow a conflagration, eating up a thousand square miles of forest, is going on to-day with an intensity very much greater than that of a conflagration. In the conflagration every fiery motion is checked by whatever combustible it may devour. The essential fire of the universal air is greater while it gives no sign than it is when it gets at work on combustible materials. We cannot too carefully reflect that there never anywhere occurs any new start of motion. What seems a start is only motion, which had existed all along, taking effect as the current of Niagara takes effect on anything thrown into it or launched upon it.

THE following simple formula will purify ordinary water, especially in reservoirs and filtering basins: Calcium permanganate, one part, aluminum sulphate, ten parts; fine clay, thirty parts. These are thoroughly mixed and one part is added to about 10,000 parts of water. It is said that even sewer drainage is almost completely purified by this mixture. It precipitates all of the impurities and living organisms, and the clear portion may be drawn off and used with perfect safety.

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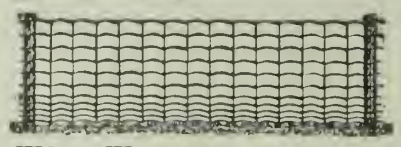
Is an excellent institution, beautifully located at Burlingame, San Mateo County, California. Nowhere do boys receive more careful supervision or more thorough training and instruction. The school is accredited at both of our universities, and prepares boys equally well for business. The mention of the name of Ex-State Superintendent Ira G. Hoitt as its master is a guarantee that it is a first-class home school.



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A user in Hollister says: We bought a High Grade belt of you last season, 160 ft. long, 8 ins. wide, 4-ply, lacing it with Kerr's Wire Lacing, and it run on our machine without interruption during the season, without stretching or breaking, and apparently it is good for another season's run.

LEATHER BELTING:
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are heavy feeders of Potash. Potash exerts a marked influence on the quality and quantity of the fruit. As many soils are largely deficient in Potash, a heavy application of a fertilizer containing not less than **12% of**

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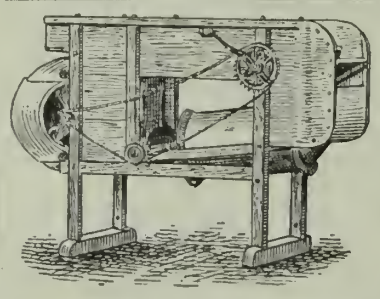

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This remedy very highly. We have thousands of testimonials. It is the only standard remedy in the market. If your horse is lame you need this remedy, for it will cure more speedily than any other remedy in the world.

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Tuttle's Family Elixir is the best for all pains, bruises, aches, Rheumatism, etc., etc.
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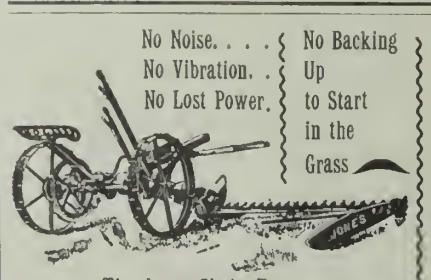

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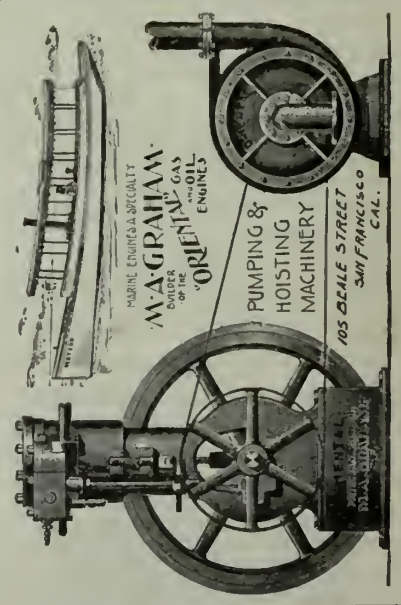

NAVEL ORANGE GROVES.

Owing to old age and inability to work, I would now sell a half interest in two or three Navel Orange Groves, near town, at much less than their value and on very easy terms to the right kind of a younger man, to work and manage them. An unequaled opportunity for an industrious man to secure a competence without risk. Address

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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, July 1, 1896.

SULPHUR.—There has been an advance in the market price of sulphur of about twenty per cent. The higher prices asked for all grades is due to a report that a 3000-ton vessel from Sicily with a full cargo had been lost at sea, and the recent earthquake in Japan would stop the output from there, for from four to five months.

WHEAT.—Owing to active harvesting farmers are offering sparingly. With this well out of the way deliveries will increase and more business result. The stock held in Call Board warehouses was 38,020 tons July 1, against 56,509 tons June 1, a reduction of 18,489 tons. The markets at the East fluctuated to lower figures up to and including Monday, but yesterday there was an advance owing to had crop reports, increasing exports and a decrease of over 3,800,000 bushels in the quantity afloat for Europe. New York advices continue to report an active export movement to South Africa. For the first six months of the calender year they aggregate over 750,000 bushels. This is independent of what has gone from the Pacific coast. The cause of this demand was the failure of the last wheat crop in Australia, together with a light crop in the Argentine, from which country South Africa has usually secured her requirements. Exporters believe that from now on shipments to that colony will fall off. This opinion is based on the stock there and the quantity on the way being sufficient to meet all wants up to December when harvesting will begin. The requirements of Europe will not show any material falling off this month and consequently considerable will go forward from Atlantic sea ports for immediate consumption.

The local market has been sluggish. Both shippers and millers only entered the market to meet urgent wants. There has been an unusual free movement of flour to the Orient which has caused a large reduction in the stock of flour and also made millers buy more freely of wheat. No. 1 shipping is quoted on the basis of $1.00, the better grades selling higher and poorer grades selling lower, club $1.05@1.07½ and milling $1.05 to 1.12½.

SPECULATIVE WHEAT MARKETS.—The local Eastern and European speculative markets fluctuated downwards up to yesterday, when there was quite an advance. This morning the markets at the East opened strong and higher, but weakened off again. The upmove was largely due to short sellers entering the market to fill, together with a stronger bull feeling with longs. This feeling was brought about by adverse crop advices at home and abroad. It looks very much as if one or more of the largest operators at Chicago had succeeded in securing quite a short interest for July delivery. If this opinion is correct, it will be quite difficult to get enough cash wheat to make deliveries without going to the elevator men, and the latter have always been known to run prices up as high as possible on the shorts, and, on the other hand, to send them down on the bulls whenever an opportunity presented itself.

The closing prices per bushel at Chicago and San Francisco, per cental, were as follows:

	Chicago July.	Chicago Sept.	San Francisco Dec.	San Francisco Seller '96
Thursday	62⅜	62⅞	98	....
Friday	55⅛	56¼	97¼	94¾
Saturday	54½	55⅞	96¾	...
Monday	55¾	55¼	96	....
Tuesday	55⅛	56¾	*97¾	....

*May, 1897, sold at $1.02.

CHARTERS.—Rates show another decline. The last charter reported was at 26s 3d for the most favorable option for the shipper. At the close the market is dull, with vessels under charter receiving slow dispatch, while the disengaged tonnage in port does not decrease much.

The tonnage situation compares as follows in registered tons:

	1896.	1895.
In port engaged	44,120	39,646
In port disengaged	38,725	.....
On the way	231,679	353,154
Totals	304,524	392,800

CROP PROSPECTS.—Harvesting in this State is well under way. The outturn will aggregate more than early estimates had placed it. The grade will also average better. Oregon and Washington advices state that farmers are harvesting and the outturn is spotted. In some sections it is large, while in others it is light. Telegraphic advices are to the effect that Thoman's crop reports were less favorable, as were the Illinois Agricultural Bureau statements regarding the crop in that State. It is now the accepted opinion that Europe will not have much more of a crop than was harvested in 1895. Some countries will have more, while others less—so that the difference will not be very much.

BARLEY.—There has been very little business the past week. Farmers' deliveries are light, but they will soon begin to increase them. The stock in call board warehouses in this city was 3775 tons on July 1, against 5198 tons on June 1. Trading on call for future delivery has been light and confined to the month of December.

The closing prices for No. 1 feed at San Francisco were as follows:

	Dec.
Thursday	71
Friday	68⅞
Saturday	68¼
Monday	68¼
Tuesday	68½

For spot the market is quoted as follows: Feed, 62½@70c; brewing, 75@80c.

OATS.—The stock in Call Board city warehouses on July 1 was 2239 tons against 3006 tons on June 1. The market has been quiet but with no particular changes in prices. Receipts have been moderately fair for the season.

The market is quoted firm at the following prices: Milling, 85 @ 92½c; feed, 75 @92½c; gray, 80@85c; Surprise, 92½c@$1.02½.

CORN.—Trading has been quiet, but notwithstanding while there has been a slight appreciation in the market value of yellow. The stock held in city warehouses was 2462 tons on June 1 and 1566 on July 1. New York advices report unusual heavy shipments to South Africa. In June they aggregate fully 1,250,000 bushels, and for the first six months of the year 1896 over 2,000,000 bushels with considerable to still go forward. The South African demand is due to its last two crops having been practically ruined by locusts. The new crop harvesting will begin December.

Our market is quoted as follows: Large yellow, 90@95c; small round, 96½c@$1.00; white, 77½@82½c.

FEEDSTUFF.—There is a steadily enlarging demand, but receipts are fully up to requirements.

Quotations are as follows: Bran, $15.00@16.50 per ton; middlings, $17.50@20 per ton; roll barley, $15.00@16.00 per ton; feed corn, $20@21 ton; oilcake meal, $21@22 per ton.

HAY.—Receipts have been lighter, but the market is weak, owing to the cutting being larger than expected. It has been secured in good condition.

We quote as follows: Wheat, $7.50@10 per ton; oat, $6@8; wheat and oat, $7@9; barley, $5@7.50; alfalfa, $6@6.50; clover, $6@8; stock, $6@7. Old hay: Wheat and oat, $7@11.50; compressed wheat, $8@10.

STRAW.—Market is quoted at 20@40c per bale.

BEANS.—The demand continues to be confined to small jobbing parcels.

The market is quoted as follows for consignment lots: Bayos, 95c@$1.07½; Small Whites, $1.15@1.30; Pea, $1.15@1.35; Large Whites, 90c@$1.05; Pink, 85@92½c; Reds, $1.25; Limas, $2.35@2.70; Butter, $1.20@1.55.

POTATOES.—Receipts are freer, which causes an easier tone.

The market is quoted as follows: Early Rose, 75c@$1.00 in sacks; 75c@$1.25 in boxes; Garnet Chiles, 90c@$1 in sacks; Burbanks, $1@1.40 in boxes.

ONIONS.—Dealers quote Silverskins at 35@50c per 100 lbs. and Reds at 15@25c.

VEGETABLES.—The market is well supplied with all kinds of seasonable varieties.

The market is quoted as follows: Asparagus, 50c@$2.00 per box; rhubarb, 25@50c per box; green peas, 50c@$1 per sack for common, $1.00@1.10 for sweet; string beans, 1½@6c per lb.; green pepper, 10@15c per lb; summer squash, 25@50c per box; tomatoes, $1.50@2.50 per box; cucumbers, $1@1.75 per box; new cabbage, 40@50c per 100; garlic, 2@3c per lb; green corn, 50c@$1 per sack; Alameda, $1.50@2 per crate; egg plant, 8@10c per lb.

BUTTER.—Offerings continue in excess of the demand, which cause an easy market, although quotations are nominally unchanged.

The market is quoted as follows: Creamery, 14@15c; dairy, 11@13½c.

CHEESE—The market is barely steady.

The market is quoted as follows according to quality, at 5 @ 6½c for new, and 7@8c for Young America; cream cheddar, 8½@9c.

EGGS.—The market is weak, but not quoted below prices ruling a week ago.

The market is quoted as follows: Store, 10@12c; Oregon, 10@12c; Eastern, 10@12c; ranch, 13@15c; duck, 12½@14c.

POULTRY.—The market is firmer for turkeys and fairly steady for well-conditioned hens, roosters, etc. Scrubby stock is hard to sell.

Live Turkeys, gobblers, per pound	13 @ 15
" " hens	12 @ 14
Dressed Turkeys	..@ ..
Roosters, old, per dozen	4 00@4 50
" young	6 00@8 00
Broilers	2 00@4 00
Fryers	5 00@5 50
Hens	3 50@5 00
Ducks	3 00@5 00
Geese, per pair	75@1 00
Pigeons, per doz	1 00@1 50

HOPS.—Crop advices are conflicting. There is no doubt of the acreage being less and that growers will have trouble in getting advances for harvest purposes. Some sales have been made at an advance on 7 cents as a basis for new crop. A New York exchange reports that market as follows: "Interior holders appear firm at prices relatively higher than those at which orders from brewers are solicited by dealers; but there seems to be enough stock in dealers' hands to permit of deliveries on old contracts being made promptly, and the local market, therefore, gains nothing in tone. Crop prospects generally are favorable. New-crop 1896 Pacific coast hops have been offered to brewers quite freely at 11c for future delivery, and 10c has been quoted in remote instances in a manner indicating that some orders would be booked at that price."

WOOL.—There seems to be a better feeling in the market, with sales reported at a slight advance for desirable grades.

We quote: San Joaquin and southern coast, 6 months' growth, 4@6c; San Joaquin, foothill, good to choice, 7@9c; San Joaquin, year's growth, 4½@7c; Nevada, 6@9½c; Oregon, Valley, 8@11c; Mendocino and Humboldt, 10@12c.

MEAT MARKET.—Hogs are stronger, but other kinds are about the same as reported last week.

Wholesale rates for dressed stock from slaughterers are as follows:

Beef—First quality, 5@5½c; second quality, 4½@4¾c; third quality, 3½@4c.

Veal—Large, 4@5c; small, 5@6c.

Mutton—Wethers, 5@5½c; ewe, 4@4½c.

Lamb—Spring, 5@5½c.

Pork—Live hogs, 3⅛@3⅜c for large, 3½@3¾c for small.

Dried Fruit Market.

SAN FRANCISCO, July 1, 1896.

New York mail advices to June 26th are as follows:

There were no particularly interesting developments in the market to-day. The wants of consumers are light as usual at this time of the year, but the number of small orders received indicates that distributers are poorly supplied. A generally firm feeling is noted, but price changes in either direction are infrequent. California loose Muscatel raisins are receiving some attention, but as a rule buyers are satisfied with small lots. When it comes to larger quantities holders do not seem willing to accept the quoted figures. In fact, a number of lots, none of them very large, are held above the market. A bid of 4½c was declined for 3-crown, but at the same time there are several sellers at this figure, and some stock that does not fully meet the requirement of this grade, but which is yet held to be good goods, may be had at 4¼c, and possibly at a shade less on a firm offer. Other grades of California raisins are steady and unchanged, there seeming to be no pressure to sell. Sultana raisins are not so strong as they were, owing to the late reports that the crop was less damaged by frost than early statements had it, and that the crop is likely to be a good one. The demand is rather light at the moment. Prunes are selling unusually well for this time of the year, although the market is firm and some of the large sizes show a tendency to advance. Apricots remain quiet on the spot, and as there is little interest shown in new goods holders at the other end manifest a disposition to make concessions. Goods for prompt shipment, said to be fancy, are offered at 7¼c f. o. b. Peaches attract little attention, but stocks being light and concentrated are firmly held.

There is very little doing in new crop. Some sales of apricots are reported at 7@8c f. o. b. For new crop peaches and prunes we do not hear of any sales. Dealers say they are watching events at the East; also crop prospects there and the probable demand. Old stocks of all kinds are scarce, with quotations entirely nominal and misleading.

Fresh Fruit.

Eastern mail advices continue to report good crops. A leading Eastern exchange reports from Maryland as follows: The June drop is over, and now the peninsula fruit grower, debarring unusual accidents, such as hail or storms, can safely estimate his crop and figure in regard to facilities for handling. Kent county fruit growers are preparing to market at the lowest estimate a crop aggregating 921,550 packages, while just across Chester river from Chestertown, in Queen Anne's county, are fully 200,000 baskets more. Whether or not any arrangements will be made to can any portion of the crop in the county is not yet fully determined. One large Chestertown grower will can extensively. Smock peaches are scarce and the yellow varieties are not so heavily loaded as are the trees of white fruit. The sale of peach baskets has been almost without precedent. There are now two large factories running on full time and hundreds of thousands have been shipped or will be shipped here from lower peninsular mills and from Delaware.

TREE FRUITS.—Cherries are coming in sparingly. The receipts of apricots and peaches are quite free. Canners buy the former at from $12.50@20 a ton, but are not in the market for the latter. So far as we can learn, large canners in this city are not contracting to any extent, preferring to await further developments.

The market is quoted as follows: Apricots, per box, Royal, 20@35c; per box in bulk, $12.50@20; plums, 25@50c per box; pears, 25@50c; figs, single layer, 25@40c; double layer, 50@75c; apples, 40c@$1 for large boxes.

BERRIES.—The market is oversupplied and consequently, under forced sales, prices have declined.

The market is quoted as follows: Strawberries, per chest, $2.50@3.50 for Longworth, $1 50@2.50 for large; raspberries, $2@4 per chest; currants, $2@4 per chest; blackberries, $2@3 per chest.

SOLD CHEAP.

BEEN USED.

PRICE Traction Engine---80 Horse.

HAY PRESS---30 Ton Day Capacity,
6 Horse Power, Sold Low.

JUNIOR MONARCH,
PETALUMA LIGHTNING and
CHALLENGE HAY PRESSES.

BICYCLES, New and Second Hand.

I. J. Truman & Co.,

Office, Mills Building, SAN FRANCISCO.

You Can Get $'s for Cents.

CRIPPLE CREEK

Is producing $1,000,000 per month and the output is steadily increasing and making fortunes for investors in Mines and Stocks. The Cripple Creek and California Gold Mining and Milling Company of San Francisco are rapidly developing their group of Mines located on Little Bull Mountain, near the city of Victor, in the gold-bearing belt of the greatest Gold Camp in the world. A limited number of the Shares of the Treasury Stock will be sold for the purpose of development at the price of 10 cents per Share. The Par Value is $1.00, and under the laws of Colorado are absolutely non-assessable. For prospectus and full particulars call or address

E. B. MYERS, Sec.

Room 30, 139 Post St., San Francisco.

William McKinley

Is the Republican standard bearer and the champion for protection. If he is elected we hope it be for the country's welfare. This, however, is a matter of conjecture; but it is a *dead sure thing* that if you buy your supplies through the Home Library and Supply Association you will save from 10 to 40 per cent. We furnish everything at deeply cut prices; but some of our specialties are Buggies, Bicycles, Barb Wire, Clothing, Furniture, Groceries, Musical Instruments, Shoes, Sewing Machines, Watches, etc.

Write for terms of membership and get our prices before buying elsewhere. Address

J. H. WOOD & CO., Managers,
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Send for Catalogue.

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116 California St., San Francisco, Cal.
Brokers
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DRIED FRUITS
Consignments Solicited. Advances Made.

MOORE, FERGUSON & CO.
WOOL, GRAIN, FLOUR
—AND—
General Commission Merchants,
310 CALIFORNIA ST., S. F.
Members of the San Francisco Produce Exchange.
Personal attention given to sales and liberal advances made on consignments at low rates of interest.

DIVIDEND NOTICE.

SAVINGS AND LOAN SOCIETY,
NO. 101 MONTGOMERY STREET,
CORNER SUTTER.
For the half year ending June 30, 1896, a dividend has been declared at the rate of four and thirty-two one hundredths (4 32-100) per cent per annum on term deposits and three and sixty one hundredths (3 60-100) per cent per annum on ordinary deposits, free of taxes, payable on and after Wednesday, July 1, 1896. Dividends not called for added to and bear the same rate of dividends as the principal from and after July 1, 1896.
CYRUS W. CARMANY, Cashier.

DIVIDEND NOTICE.
The German Savings and Loan Society,
526 CALIFORNIA STREET.
For the half year ending June 30, 1896, a dividend has been declared at the rate of four and twenty six hundredths (4.26) per cent per annum on Term deposits, and three and fifty-five hundredths (3.55) per cent per annum on Ordinary deposits, free of taxes, payable on and after Wednesday, July 1, 1896.
GEO. TOURNY, Secretary.

DIVIDEND NOTICE.
Mutual Savings Bank of San Francisco,
33 POST STREET.
For the half year ending June 30, 1896, a dividend has been declared at the rate of four (4) per cent per annum on term deposits and three and one-third (3⅓) per cent per annum on ordinary deposits, free of taxes, payable on and after Wednesday, July 1, 1896.
GEO. A. STORY, Cashier.

DIVIDEND NOTICE.
SAN FRANCISCO SAVINGS UNION,
532 California St., Cor. Webb.
For the half year ending with the 30th of June, 1896, a dividend has been declared at the rate per annum of Four and thirty-two one hundredths (4.32) per cent on Term Deposits, and Three and sixty one hundredths (3.60) per cent on Ordinary Deposits, free of taxes, payable on and after Wednesday, the 1st of July, 1896.
LOVELL WHITE, Cashier.

DEWEY & CO.
SCIENTIFIC PRESS — PATENTS — PATENT AGENCY
220 MARKET ST. S.F.

Patrons of Husbandry.

From the State Lecturer.

In no State in the Union are the Patrons of Husbandry better organized than they are in Pennsylvania. There are so many subordinate and Pomona Granges within the State and the membership is so numerous and influential that they very largely control legislation in the interest of agriculture. They care for the Grange somewhat like the Methodists do for their church members. The officers of the State Grange are kept constantly in the field like the presiding elders, to cultivate the field and promote the cause. The State Lecturer, Brother W. F. Hill, is kept busily in the field, ready to respond to every call. He has filled the office most acceptably for several terms, and, though small in stature, the Worthy Master of the National Grange calls him a large-sized "Hill." Brother Hill writes interesting weekly letters to the Grange press of his State, giving an account of his travels and work. The writer has followed him closely and has gained much valuable information concerning his work and the State.

THE SORROWS OF SAN JOSE GRANGE.

The awful calamity that befell San Jose Grange has no parallel in the history of the world. Three brothers and three sisters being swept away in the dead hours of the night by the hand of an assassin is the most appalling occurrence on record, when no motive appears except the wanton taking of human life. The sorrowing sympathy of the fraternal world goes to the remaining members. On Saturday, June 20th, writes the Worthy Lecturer, after a short business meeting the time was given to memorial services for our lamented Brother and Sister McGlincy and family. What a sad hour for the members it must have been, and also for their many friends, who assembled to take part in the mournful exercises.

The writer feels himself under lasting obligations to the Worthy Lecturer of San Jose Grange for a very interesting letter under date of June 22nd. It came too late, however, for comment in this week's PRESS, since contributions should arrive early in the week. The compliment is duly appreciated and no effort shall be spared to merit its continuance. The question, "Should farmers' wives and daughters have a general knowledge of the farm?" was discussed June 13th, and it was conceded that a general knowledge gave a woman larger sympathy and interest in her husband's work; that it broadens her ideas and elevates her mind, and if a time should ever come when she must stand alone, *then* it was that this knowledge would serve her. A paper was read on the subject by the Worthy Lecturer. Having been a widow for six years and the manager of a thirty-acre fruit farm, it was thought she might impart some practical experience on the subject. The Lecturer adds: "You might think this was a one-sided affair, but our Worthy Secretary declared that she believed there were some things a woman would be better off not to know, milking a cow, for instance. You can imagine how earnestly she would discuss such a theme. Saturday, June 6th, was Young Ladies' Day. There was an interesting programme, but it was quite an effort to appear mirthful, such a sadness seemed to pervade everything we did."

A very interesting discussion took place May 23rd concerning dead tips of branches on fruit trees, the substance of which appeared in the following issue of the PRESS. The writer is requested to suggest Lecturer's themes, but in the presence of such lecture ability he feels more at home as a student than as an instructor. However, we shall all soon have the new "Quarterly Bulletin" from National Lecturer Messer, when we will be instructed from headquarters.

All men of genius are said to have eyes clear, slow-moving and bright. This is the eye which indicates mental ability of some kind, it does not matter what.

"It is said," said one girl, "that so many men nowadays have a great deal more money than brains." "Yes," sighed another, "and so little money at that."

"I was so disappointed I was out the other day when you called, Miss Percival." "So was I. I felt sure I'd find you, because as I turned the corner I saw you go in."

Hardly a week passes that the formation of some new trust is not announced, and it means that in a short time the price of almost every conceivable article which is purchased by the people will be regulated by a few men, and what are the farmers going to do about it?

A mother, commending her daughter for a situation, was asked if she was an early riser. "An early riser!" she exclaimed. "Well, I should think so! Why, she's up in the morning and has breakfast ready and makes all the beds before any one else is up in the house."

One of the best means for saving soil moisture from evaporation is by shallow cultivation after every rain, but farmers usually limit this to the period of crop growth and permit waste of moisture after the crop matures.

Mother—Children! children! Don't make such a frightful noise! Mattie—We're playin' horse-car, mamma. Mother—Yes, I know, dear; but it isn't necessary to make such a terrible noise. Mattie—Yes, it is, mamma; we've got to where Hattie insists on payin' the fare, and so do I.

It has been decided, after an immense amount of figuring, that if a boulder weighing a ton should fall from the sun, it would take 99 years, 9 months, 7 days and 2 hours to reach the earth. The same boulder could make the trip from the moon to the earth in four and one-half days.

Some soils are liable to a very peculiar formation in the subsoil, which soon renders them totally unfit for profitable cultivation. It is found that, at a depth varying from eight or nine inches to a foot or more, there has been formed a layer of substance as hard as stone, quite impervious to water and to the roots of plants, and entirely cutting off the topsoil from communication with the subsoil. The layer is called a pan. Before the soil can be properly worked the pan must be broken up, an operation not by any means always performed, but if once performed never reform.

The business woman must take time to keep well. If social pleasures encroach on her resting time, she must give them up. On the other hand, her anxiety to keep up with the fashions or to keep up to date in other matters ought not to induce her to make twins of herself. It is much better to do one woman's work well than to make a failure in two lines. Only in exceedingly rare instances can a woman be at the same time a successful business woman and her own dressmaker, milliner and housekeeper. Business women ought to take a few leaves from the experience of men, who have been longer in business and therefore know more about it. They take innumerable little recreations, and do not attempt to crowd all of life into one day. They get more pay, largely because they have a higher standard of comfort.—Lippincott's.

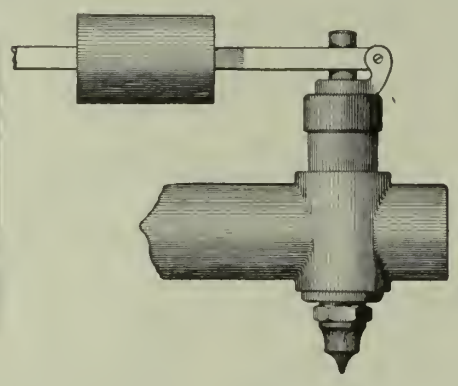
If the farmers of the country want to free themselves from the domination of political bosses they must begin at the primaries. Thousands of farmers never attend caucus and thousands more do not attend unless they are specially urged to come out. It isn't necessary to tease a village politician to attend the caucus. He is interested and is there every time. The farmer should be equally interested and be there, too, as a matter of patriotism and duty, if for nothing else. The Grange has a lesson for farmers along these lines. Some have learned it—others must learn it.

We think too much of our environment and not enough of our destiny. Wealth has very little to do with happiness. Money gives nothing to the heart, can purchase neither a moral principle nor an aspiration. Strip the millions from one man, take away the poverty from another, pull off everything until you get down to the naked soul, and you will find that the only real difference is a difference of character. Environment counts for nothing, but character counts for everything.—New York Herald.

J. H. Brigham, Master of the National Grange, says: "The ballot in the hands of intelligent, courageous voters will drive vice and corruption from public life and secure forever the 'jewel of liberty in the family of freedom.' No order or association of men in this broad land has done so much to enlighten and instill a spirit of patriotism and independence into the masses of the people as has the Order of Patrons of Husbandry, and while our Order, in its associate capacity, is and will be kept free from partisan entanglement, we have it distinctly understood that the farmers are henceforth to be a very important factor in shaping the legislation and in securing its enforcement in this country. We shall seek to know our rights and the man or party neglecting or betraying the interests of agriculture will speedily ascertain that the farmers have the courage to administer an appropriate and effectual rebuke."

Our World's Fair Medals.

People who use cream separators do not appreciate the wonderful victory of the RUSSIAN CREAM SEPARATOR won at the Chicago World's Fair, neither do they appreciate the fact that the Russian won the same victory at both the world's fairs held since that time. These victories are based on the fact that the Russian makes the finest quality of butter the world ever saw; that it does it with great economy, and that the machine is so easily operated that any farmer of average intelligence may run it successfully. Here is a picture of the steam pressure regulator. No matter whether the pressure is forty pounds or one hundred, on the boiler, it is always the same on the machine in which the bowl alone revolves. Keep the separator clean in all its parts and it will do the rest of the work. Send for circulars.



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West Chester, Pa.,
Elgin, Ill.,
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Horse Medicine,

D. D. T. 1868,

Is Certainly the Best Preparation of Its Kind in the Market. Ranchers, Stock Raisers and Horse Owners of Every Description Will Tell You That It Does Good Work Every Time.

MESSRS. H. H. MOORE & SONS, Stockton, Cal.—GENTLEMEN: In answer to your inquiry, would state that I used your H. H. H. Liniment on my Holland prize-winning cow, "Lena Menlo," for a wrenched shoulder, and it relieved her very much. She calved the next day, and while suffering from the sprain gave the largest authenticated quantity of milk ever given on this coast (10¼ gallons per day), showing conclusively the great relief received from your remedy. I consider it a necessity in my stables, and when away from home feel perfectly safe, as inexperienced men can do no harm with it as they can with the more powerful blisters. Respectfully yours, FRANK H. BURKE, Breeder of Registered Holsteins and Berkshires. Menlo Park, Cal., January 22, 1889.

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H. H. MOORE & SONS,
Cor. Sutter St. and Miner Ave.,
STOCKTON ..... CALIFORNIA.

FARMERS' HANDY WAGON AND FRUIT TRUCK.

Width of tire, 6 in.; height of bolster, 30 in. Carries any size platform or bed. Wheels turn under the load. Nothing equal to it for Farm, Orchard and Vineyard. Four sizes, one horse to six horses. Fully guaranteed. Write for Catalogue. Agents wanted. W. C. RARIG, General Agent, 157 New Montgomery Street, San Francisco, Cal.

"California Fruits and How to Grow Them."

Practical, Explicit, Comprehensive.

PACIFIC RURAL PRESS, 220 Market St., S. F.

Coast Industrial Notes.

—The Sacramento Drying and Packing Co. will build a large fruit cannery at Visalia.

—Coalinga, Fresno Co., reports a new gusher from which flows 1000 gallons of oil per hour.

—Mendocino county reported a sale of wool last week aggregating 275,842 pounds, at 9c to 10½c a pound.

—The Fresno Chamber of Commerce wants the Yosemite Railroad Co. to start their road from that city.

—The lumber cargo shipments from Oregon and California to San Francisco in May aggregated 19,278,611 feet.

—Washington expects this year's wheat crop to be 15,000,000 bushels—the biggest in the history of the State.

—It is estimated that the prune crop in California this year will exceed 60,000,000 pounds of cured fruit. In Oregon the prune crop is reported to be a failure.

—The California Wine Association is about to build the largest winery in the world near Fresno, with a daily capacity of 960 tons of grapes. Elevators, a distillery, etc., will be built in connection with the winery.

—Few persons, says the Seattle, Wash., *Post-Intelligeneer*, realize the magnitude of such orders as those now being filled by the Atlas Lumber Company and Stetson & Post in supplying 3,600,000 feet of cedar paving blocks for the city of Indianapolis. Perhaps a better idea of their extent may be gained from the fact that 300 cars will be required to move the blocks East.

—Traffic Manager J. C. Stubbs says that the Southern Pacific will shortly make Galveston the entrepot for its Atlantic Steamship line instead of New Orleans. As soon as the Charleston harbor shall have been dredged to the proper depth the Morgan Line of steamers will carry transcontinental freight to that port, thus reducing the rail haul by 311 miles and giving the Sunset route a greater competing advantage. It is said that the Southern Pacific will extend its lines from Houston to Galveston, instead of using the Gulf, Colorado and Santa Fe between those points, as it does at present.

—The report of the Southern Pacific Co. for the year ending December 31st, 1895, shows that the net earnings per mile of road have decreased from $5763.97 in 1872 to $2296.62 in 1895. The decrease in the net earnings is explained by the decrease in the receipts per ton, all of which is attributed to reduced freight rates. The figures show that the traffic has increased and the net earnings at the same time have decreased. During the eleven years which the Southern Pacific Co. has been operating the lines and branches which comprise the system it has accumulated a surplus of $10,160,712.78. The total net earnings during that time have been $25,243,622.51; of this amount $15,082,909.73 has been spent for betterments and additions.

The McCormick Corn Harvester construction embodies the only correct principle which works in a Corn Harvester.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR WEEK ENDING JUNE 16, 1896.

562,113.—RUBBER HEELS—A. N. Barrett, Los Angeles, Cal.
562,348.—WAGON BRAKE—H. A. Baxter, Seattle, Wash.
562,171.—CAR FENDER—Cogniasse & Shultz, S. F.
562,066.—THILL TUG—A. W. Cook, Stockton, Cal.
562,127.—FAUCET—Fowler & Fettic, Genoa, Nev.
562,333.—CRUTCH—F. A. Lund, Los Angeles, Cal.
562,317.—WAVE MOTOR—C. R. Martin, Redondo, Cal.
562,017. CURTAIN HANGER—J. M. Murdock, Oakland, Cal.
562,021.—SHAWL STRAP—L. Phelan, S. F.
562,028.—CAR COUPLING—L. E. Redden, Tempe, A. T.
562,158.—ROASTING FURNACE—J. R. Sears, Stockton, Cal.
562,254.—LAMP STOVE—M. H. Sinclair, Los Angeles, Cal.
562,102.—GATE—R. G. Stingley, Franklin, Or.

NOTE.—Copies of U. S. and Foreign patents furnished by Dewey & Co. in the shortest time possible (by mail for telegraphic order). American and Foreign patents obtained, and general patent business for Pacific Coast inventors transacted with perfect security, at reasonable rates, and in the shortest possible time.

A RECORD

like that of our reliable **GOODHUE WIND MILLS** is something to be proud of. We give below a cut of Campton Township, Kane Co., Illinois, where there are $9,000.00 worth of our **POWER MILLS** in daily use. The large dots represent the Power mills the small dots mean **GOODHUE PUMPING MILLS** At first one man bought, and then his neighbors seeing the good qualities of the **GOODHUE** did likewise. The merits of the machine increased the sales so extensively. We make also 2 to 8-horse Sweep Powers, 2 and 3 horse Tread Powers, and the famous **SUCCESS** 1 horse Tread Power, used so largely for cream separators, pumping, etc. A full line of Grinding Mills, Ensilage and Fodder Cutters, Corn Shellers, Wood Saws, &c. If you write us today, will send our new 150-page catalogue **FREE.** **APPLETON MFG. CO.** 23 Fargo St. Batavia, Ills.

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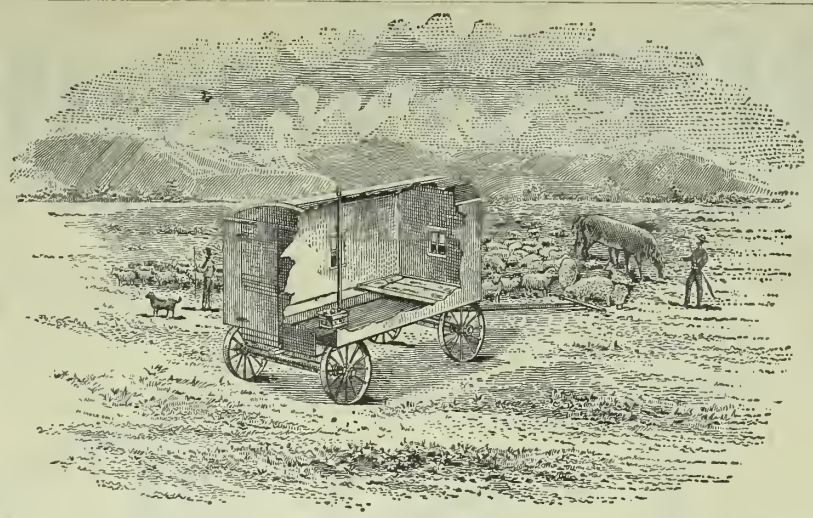

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In the remote grazing regions of this State the traveler not infrequently sees a small herder's cabin mounted on wheels, so that it may be moved about by easy stages to accommodate the wanderings of the flock. As a wagon adapted to such use must bear its burden continuously the strain is necessarily great, and this fact, coupled with the continual exposure to the weather, makes it necessary to use something which will stand the severest test. For something that meets every requirement for such a purpose, that will stand all kinds of weather, cannot warp, shrink, dry out or decay, there is, perhaps, nothing on the market equal in all respects to the all-steel Handy Truck manufactured by the Bettendorf Axle Co. of Davenport, Ia. This is but one of the many uses to which this truck may be put. It will be found of special advantage in all farm or ranch operation; just the thing for hauling hay; an ideal truck for wool, or anything else. It is lighter, stronger, runs easier than the ordinary wagon, and is practically indestructible, being absolutely impervious to the action of the elements. Certainly all these good qualities combined in one implement leaves little else to be desired. Write the manufacturers for catalogue, prices, etc.

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We have several fine litters coming on. Book your orders for choice pigs. Write for prices and get our circular.

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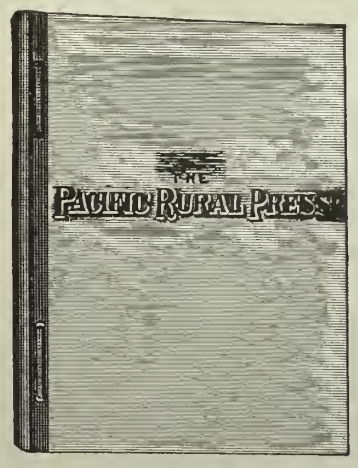

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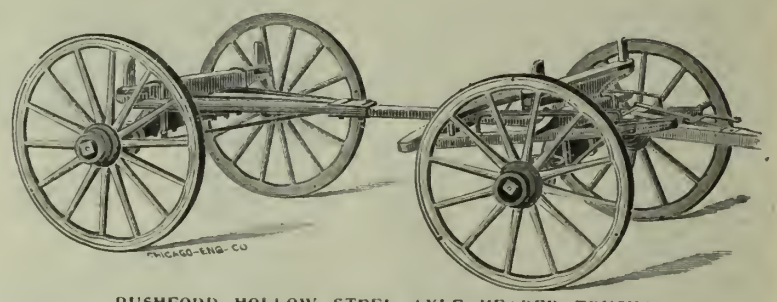

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Read the following testimonials on the RUSHFORD HOLLOW STEEL AXLE WAGON and be convinced of its superiority:

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Yours truly, E. A. JENKS.

VEHICLES in Great Variety. FARMING IMPLEMENTS of Every Description. **BICYCLES FROM $20 UP.**

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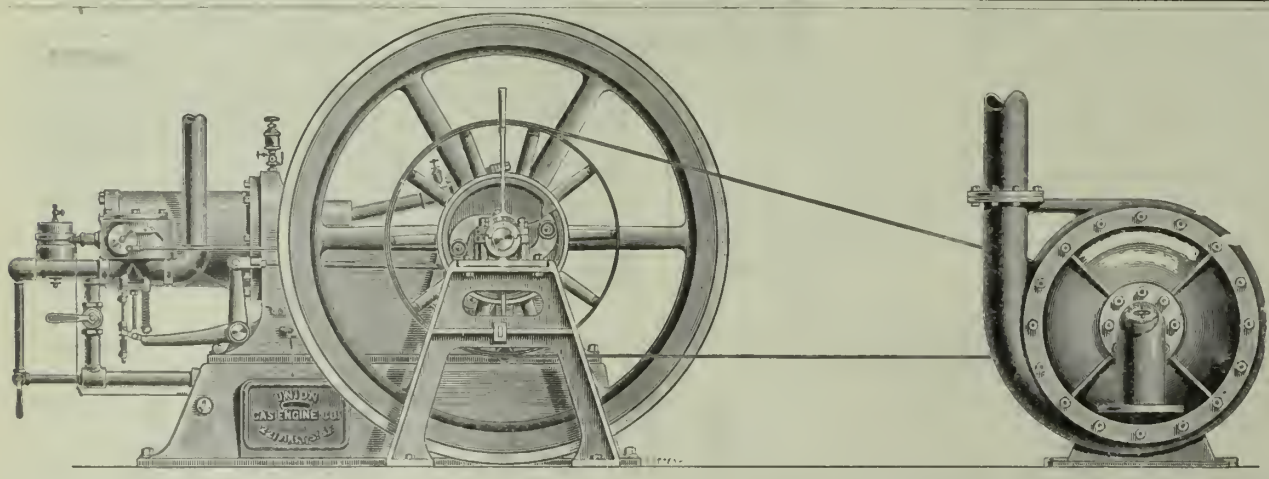

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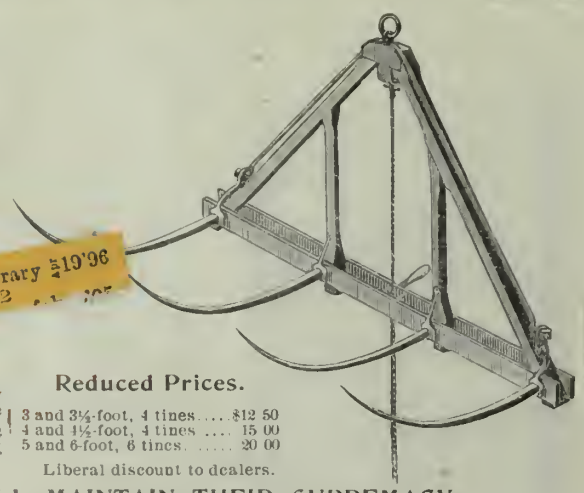

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need no introduction, as they have been the only fork on the market for the past fifteen years, and MANY THOUSANDS of them are in daily use all over the PACIFIC COAST.

Reduced Prices.

3 and 3½-foot, 4 tines	$12 50
4 and 4½-foot, 4 tines	15 00
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Liberal discount to dealers.

THEY STILL MAINTAIN THEIR SUPREMACY

For Lightness, Strength and Durability. No pains are spared to make them perfect in every particular.

THE PRICES HAVE BEEN REDUCED TO SUIT THE HARD TIMES.

Every Farmer should have at least one of these Forks.

We also manufacture **Centrifugal Pumps and Compound Steam Engines**; and in the near future will place upon the market **OIL MOTORS** of latest design and greatest economy and efficiency.

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YES, A FEW TRAGEDY'S ON MARIANA ROOTS LEFT.

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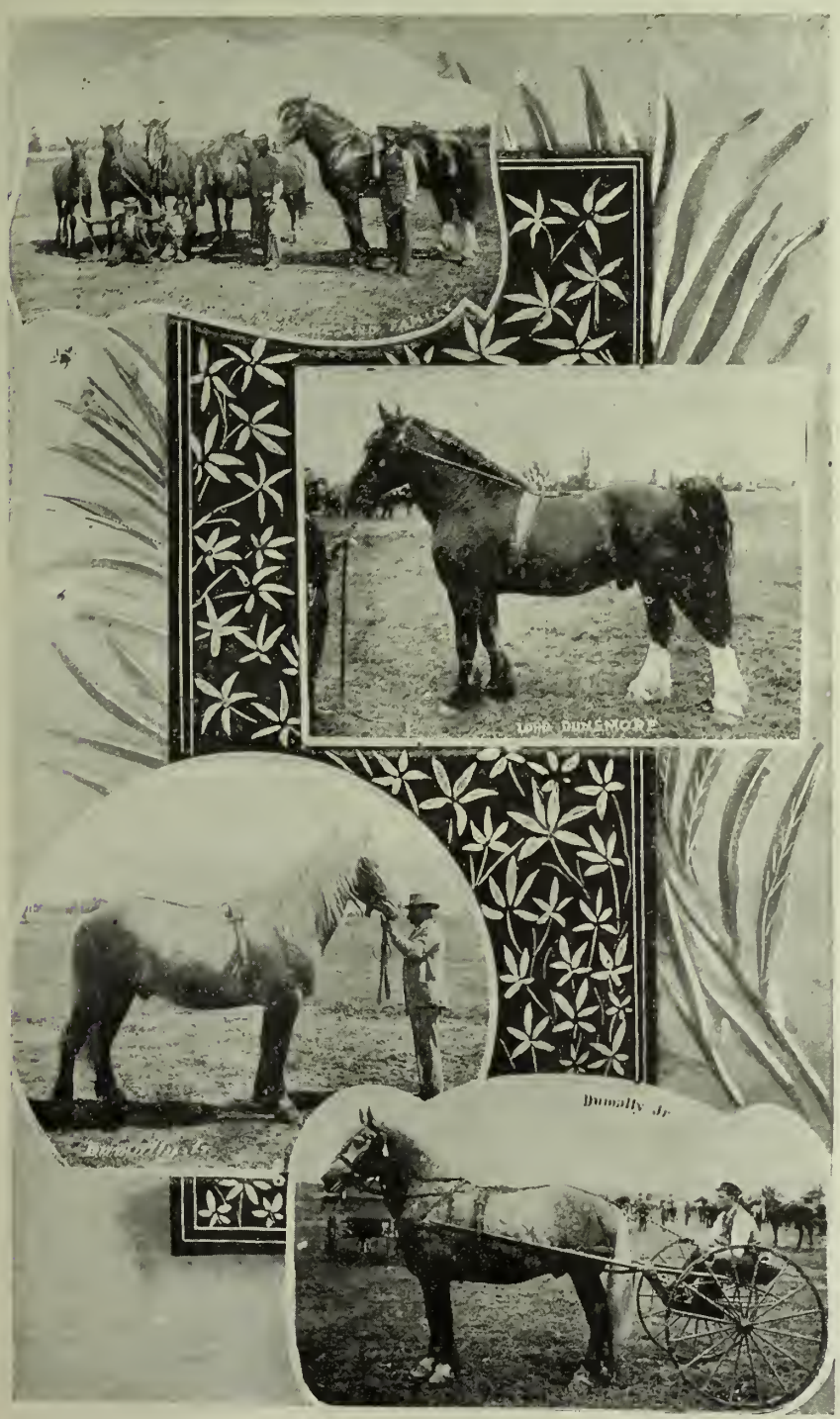
Vol. LII. No. 2. SAN FRANCISCO, SATURDAY, JULY 11, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.



PRIZE-WINNING CALIFORNIA DRAFT HORSES.

At the Horse Shows.

The time is fast approaching for the horse shows in connection with the State and District fairs. We hope that all that has been said about the coming demand for better horses and the very short crop of them which is now maturing will lead people to take more than ordinary interest in these coming exhibitions. The latest events indicate that too much has not been prophesied about the foreign demand for the better class of American horses. Not only in England, but on the Continent, efforts to introduce such animals are scoring success. There is opposition encountered, naturally, in opening a new trade of this kind, and local dealers do their worst in shouting disease and otherwise maglignig the importations; but we are told that such cries avail little, and their motive is so well understood that the animals sell well, in spite of opposition, because they show their merit so plainly. California is a long way from such trade, it is true, but, if the movement proceeds as expected, it will reach even to this coast and influence horse values. The fact, too, that California's natural conditions are so well suited to horse growth that our breeders can certainly produce better horses in less time than our wintry regions east of the mountains. But this is ouly a single phase of the matter. The American demand promises to be sharp for the best stock in draft and roadster classes, as has been fully discussed iu our columns. The engraving shows some of the premium heavy weights at the last State Fair. There is a fine portrait of Lord Dunsmore, a Clydesdale, owned by J. E. Meadows of Lemoore; also a good view of this splendid horse and his family of youngsters. The Norman, Dumally Jr., owned by R. H. Hansen of Isleton, is also shown naked and in harness. Such horses and scores of others which the coming fairs will show should receive especial attention this year. Good blood is cheap now, both for purchase and service, and good mares should not be idle.

Nitrogen Traps of the Acacias.

We alluded recently to the peculiar root excrescences, or tubercles, in which plants house the tiny bacteria which have the power of trapping the wary nitrogen from the atmosphere. The illustrations used at that time showed the roots of herbaceous plants having these tubercles, but it was remarked that this endowment is common to the leguminous family, and the family includes many noble trees, of which the Australian acacias are best known in California; but there are many others, both in temperate and tropical climes. To show the nitrogen traps of an acacia we take an instance illustrated in the last report of the University Experiment Station. In this instance the tubercles were found on the roots of an *Acacia melanoxylon* which was grubbed out during street improvements in Berkeley. The trees had been previously deprived of many of their main roots and subsequently made large bunches of fibrous roots near the surface of the ground. In digging out the trees great bunches of these tubercles were found—so abundant, in fact, that the shovel seemed to throw out as much tubercle as it did soil. Evidently the tree had well supplied itself for absorbing atmospheric food, and in its hard and sterile place by the roadside was as sleek and well fed as tramps become through their absorption from wayside kitchens. Prof. Hilgard in his report calls attention to the fact that different plants have different forms of tubercle, and different species of bacteria to live in them. The bacterium which labors for the good of the acacia will not do the same work for the clover.

THE NIGROGEN FACTORIES ON ACACIA ROOTS.

PACIFIC RURAL PRESS.

Office, No. 220 Market St.; Elevator, No. 12 Front St., San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Any subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

Our latest forms go to press Wednesday evening.

Registered at S. F. Postoffice as second-class mail matter.

ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, July 11, 1896.

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The Week.

Weather and Crops.

We are having good hot weather at California interior points this week. Adding a special California holiday (Monterey Day, July 7th) to the glorious Fourth seems to have raised something warm, as the temperature record below will show. We have missed the Fourth of July shower this year and none is in sight, for the Weather Bureau expects the heat to continue. It is bringing on the fruit fast, and busy days are with the handlers. Pears are going on another season's trial of the London market. Peaches are having a fair run at the East, and Georgia is cutting a slight figure this year. Plums are selling well and large shipments are being made. Grain is turning out rather better than was expected in view of the long norther. The pastures have held out well, but are now drying rapidly.

The following data for the week ending 5 A. M. Wednesday, July 8, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	....	....	.11	.02	66	50
Red Bluff	....	...	.16	T	106	60
Sacramento	....	*	.04	T	*	52
San Francisco	....	....	*	T	69	50
Fresno	....	....	....	T	108	62
San Luis Obispo	....	....	*	....	84	46
Los Angeles	....	....	....	T	82	54
San Diego	....	....	....	T	72	58
Yuma	....	....	....	.03	108	70

* Indicates no record.

The Valley Road Begins on Wheat.

The Valley railroad proposes to start right in at moving wheat to tide water at Stockton, although construction trains only are run and local freight offices are in the conductor's hat. They have opened a general office at the corner of Main and Hunter streets in Stockton and B. G. Maynard will be agent at that point. "At present," said Mr. Maynard to a reporter, "we expect to do business only one way. The construction train will go out with its material in the morning for the front, and, returning, will bring freight—wheat only—but we believe that we shall be able to carry all of that which the people can offer us. The cars loaded with grain, and that is about all we have a schedule on, will be brought in on the conductor's memorandum and will be billed in Stockton. There will be no regular time schedule for any train until they reach Fresno, and then they expect to open up for business all along the line. They expect that there will be some grain to come in every day."

Grape Outlook in Northern Sonoma.

The Healdsburg *Enterprise* thus sums up the local grape situation:

The grape crop of northern Sonoma will not come nearly up to the expectations of vinoyardists who earlier in the season, and after the severe frosts, predicted that the berries had not been injured. That vines which were blackened by the frost will not produce much of a crop is a matter no longer in doubt; and it is safe to say at this time that the yield of the Russian river valley will not be over half as heavy as in 1895.

An *Enterprise* representative has been in a large number of the vineyards in this section during the past week. The result of his investigations leads him to make the above statement which will be found to be about correct.

Down in the Windsor country nearly every grape grower says his vines are not heavily laden, and in the Dry creek valley the same condition obtains. Some vineyards in Alexander valley will have a heavy crop, while others were badly nipped by the frost.

A peculiar thing noted is that in vineyards where the frost affected the vines which afterwards came out strong and fresh, the berries are dropping off badly at this time. This should not occur, rarely has there been a more favorable season for grapes to set. No wind, but instead, warm, calm days.

With a light crop and the cellars of this district empty, there will be a lively bidding for grapes this fall. As to prices, many ideas are expressed. The wine-maker says he will not be able to pay from $18 to $25 per ton for grapes this season, and sell the juice at the price now ruling. On the other hand, the producer is firm and says, "you must pay my price, or else you cannot get my crop."

Fruits Should Be Packed When Cool.

The Wheatland *Four Corners* prints the following from G. W. Harney, official entomologist for Yuba county:

I have had some inquiries while here as to the best methods of picking and packing fruit for Eastern shipment. My experience has been that one of the most essential things in handling fruit destined for a long journey in an iced car is to see that it is picked and packed when cool. In these very hot days the pickers should be at work before sunrise, and they should cease work at about 9:30 or 10 o'clock in the morning. By pursuing this method fruit may be allowed to become nearly fully ripe before being packed. Picked and packed cool, then placed in an iced car, true refrigeration is the result. When opened up in the East it is in fine condition and will bring a good price.

Now, look at the reverse of this method. Some shippers pick and pack throughout the day. Some of the fruit is thoroughly heated; it is wrapped in paper and boxed up and never gets a chance to cool off properly. Even if it is hard and green when packed, it will soften up before it cools, and, instead of being refrigerated, it is shocked by the temperature of the iced car and before reaching its destination goes to pieces.

The best returns I have seen for a lot of fruit was in the case of a shipment of 500 boxes of early peaches. They were nearly soft—in fact, some of them were nearly ripe; but they were picked in the early dawn, packed up cool and put in a refrigerator before the heat had a chance at them. They carried in splendid shape, and when opened up in one of the big Eastern cities they were in perfect condition and netted the grower fully $600. Just imagine what the result would have been if the fruit had been picked and packed on a hot afternoon.

Pith of the Week's News.

McKINLEY will not take the stump in the coming campaign.

AT San Francisco park on Sunday last there was born a buffalo baby; also a pair of twin elks.

E. M. COOPER, General Manager of Wells, Fargo & Co's Express died at his home in Oakland on Tuesday.

THE people of Crete have declared their independence of Turkish rule and will fight a defensive war against the Ottoman Porte.

FRANKIE MARR, aged 16, committed suicide at San Jose on Tuesday because her hair had been cut off by her guardian as a punishment.

ON the 2nd inst. ex-Confederates to the number of 100,000 met at Richmond, Va., and laid the cornerstone for a monument to Jefferson Davis.

AT Santa Barbara on the night of July 6th Mrs. H. R. Richardson and her daugeter were murdered in their beds by parties and for causes unlearned.

THE brother of Murderer Dunham is in San Diego, ostensibly on business, but there are many who believe that he is helping his brother to get into Mexico.

SINCE the Corbett-Sharkey mill prize-fighting has had a great boom in San Francisco and nearly every night witnesses a "meet" somewhere between human bulldogs.

LORD DUNRAVEN'S yacht, the Valkyrie, which was beaten last year by the Defender has been sold to an American and so it is said, a Californian and will soon appear in San Francisco bay.

THE bridge of the San Joaquin Valley Railway over the San Juan river will be finished by the 25th. Grading to that point has been nearly completed, and the tracks will be laid by the date named. The road will be completed to Fresno by August 15th.

THE Rialto irrigation district in San Bernardino Co. will probably go out of existence, turning its irrigation system over to its bondholders. The district is one of the largest in the county and embraces one of the principal orange growing districts.

VICE-PRESIDENTIAL CANDIDATE G. A. HOBART of New Jersey was formally notified of his nomination on Tuesday of this week. He made a graceful and dignified response, declaring himself in line with his party on the questions of tariff and finance.

MR. TELLER has the satisfaction of knowing that his course in the St. Louis Convention has the full approval of his own State. Upon his return to Denver he was greeted by a vast concourse and 500 enthusiastic young men drew his carriage through the streets.

THE celebration at Monterey, in honor of the 50th anniversary of raising the American flag in California, began on Monday and is still in progress as this is written (on Wednesday). The event has attracted vast numbers of people and has been successful in all particulars.

OAKLAND is the scene of a small war based upon the "color line." The Oakland Cycling Club, composed of negroes, has applied for admission to the League of American Wheelmen, and there is a great deal of "feeling" over it. The decision is not yet rendered but whatever it may be there promises to be a big row.

THE most extravagantly magnificent entertainment in Paris for many years was a party given last week by the Countess Castellane, formerly Miss Gould. It is pronounced unexampled in France since the empire fell. "American money," says the chroniclers, "has come to the rescue of Parisian tradesmen as well as Parisian society."

SAYS the Anderson Valley *News*: It is just a little singular that murderer Dunham and a few other like criminals prefer dodging through the woods this hot weather when they might, under the benign care of our California courts, be enjoying the comfort, quiet and immunity from punishment their distinguished colleague, Mr. Durrant, is taking advantage of.

THE executive committee who will have the immediate charge of the McKinley campaign has been settled upon as follows: Mark Hanna, chairman; M. S. Quay, Pennsylvania; C. Leland, Kansas; Joseph H. Manley, Maine; John D. Long, Florida; Henry C. Spaine, Wisconsin; Charles C. Dawes, Illinois; W. T. Durbin, Indiana; Warner Miller, New York; W. M. Osborne, Massachusetts, secretary.

AN anti-Chinese wave has struck British Columbia and many citizens, in conjunction with labor leagues, are using every exertion to agitate the people to the proper pitch to carry away any objection the Federal Government might raise as to legislation for the exclusion of Chinese and Japanese from Canada. A monster anti-Mongolian mass meeting was held last night, to which delegates from all parts of the province were in attendance. After declaring against Chinese immigration in severe terms, the resolutions call upon the Dominion Government to increase the tax or duty levied on Chinese under Section 8 of the Chinese immigration act, from $50 to $500.

THE National Democratic Convention met at Chicago on Tuesday and is in its second day as the RURAL goes to press. As had been anticipated, the silver men are in complete control. They "turned down" Senator Hill of New York for temporary chairman in favor of Senator Daniel of Virginia, a silver man, and have elected Senator White of California permanent chairman. In order to secure a two-thirds vote for silver, they have thrown out gold delegates from Michigan and Nebraska and put silver men in their seats—in this respect following the example set by the McKinley majority at St. Louis. The platform reported by the committee, but not yet formally adopted, declares for free coinage of silver, for a tariff for revenue only, condemns the issuance of bonds in time of peace, condemns the Pacific Railroad Refunding bill, etc., etc. A proposition to indorse the Cleveland administration was voted down. At every stage of these proceedings the gold men, led by Senator Hill and ex-Secretary Whitney, entered earnest and threatening protests, but to no purpose. They were heard with scant patience and less respect. As yet they have given no definite hint of their plans, but there is general expectation that they will decline to support the nominees of the convention. There are many candidates for the Presidential nomination, including Bland, Blackburn, Stevenson, Boies, Tillman, Teller, Pennoyer and others, but as yet nothing to indicate who the nominee will be. The effort is to name a man in good standing in his own party and who at the same time can command the Populist indorsement. This is a serious problem, since the Populist leaders have announced that they will support nobody who has not formally cut loose from old party connections.

Gleanings.

THE sugar beet experiment is progressing satisfactorily at Colusa.

A THRIFTY Reno man has applied natural heat from the Amedee hot springs to his incubators.

UNCLE GEORGE LORD, president of the Pioneer Society of San Bernardino county, passed his 96th birthday last week.

DAVID WOERNER, a pioneer cooper and well known in Napa valley where samples of his work stand in almost every cellar, died in San Francisco last week, aged 63.

DAVID HETZEL, a Guerneville cigar maker expects in the future to raise the greater portion of the tobacco used in the manufacture of his cigars. This year he has a plantation of 10,000 plants of cigar varieties.

SAYS the Wheatland *Four Corners*: "The RURAL PRESS is the king of its class and is distinctly a California journal. A neat feature of this journal is a binder which is almost given away. By means of the binder its subscribers are able to make of the journal an excellent volume."

WATSONVILLE *Pajaronian*: "The men who predicted a light apple crop in this valley are hedging. The crop is estimated at nearly double what it was at this time last year. The belleflower crop promises to be heavy, and the Newton pippin yield is going to be big. The Pajaro valley will have lots of apples for export this year."

THE Chino *Champion* is informed that the experiment of irrigating beets in the southwest section of the Chino ranch has been quite successful. The beets that have been so treated are looking well and there is no doubt of the benefit derived from the flooding. Those that had stopped growing on account of the scorching heat have started another growth since irrigation.

FINANCIAL disaster has at last overtaken "White Hat" McCarty. The eccentric turf man Tuesday filed in the Superior Court his application to be declared an insolvent debtor. McCarty asks the Court to relieve him of debts amounting to upward of $18,000. He confesses that he has no assets other than his household furniture which he claims is exempt from execution.

SANTA ROSA, July 6.—Santa Rosa's fruit-preserving industries will be operated at their full capacity this season. The big cannery, the Cutting Company of San Francisco, located here, will be started as soon as fruit is ready to pack. E. C. Merritt, an experienced fruit man, has been appointed manager. Hunt Brothers' Packing Company has been reorganized, with J. D. Barnett as manager, and will begin operations soon. These canneries are among the largest in the State, and will pack all the fruit that is delivered to them.

THE J. K. Armsby Company will establish a dried fruit grading and packing house at Visalia under the superintendence of Geo. A. Flemming. "We will be in a position," said Mr. Flemming, "to grade and pack all the dried fruit brought to us this season. The fruit can be brought direct to our establishment from the trays in the orchard, and it will be graded and receipts issued therefor. The owner can then take his receipt and go to a bank or a private individual and borrow money on his goods, just like a wheat grower can get money on a warehouse receipt. If so desired, we will advance money to our patrons."

HORTICULTURAL COMMISSIONER YOUNG of San Joaquin county has recently served the following notice upon the orchardists of the county: "Your attention is respectfully called to Sections 2 and 3 of an act entitled 'An act to protect and promote the horticultural interests of the State.' (Statutes of California 1889, page 413). You are hereby notified that on and after July 1st, 1896, your place of business will be inspected at intervals and any fruit found with scale bug, codlin moth or any other insect pest injurious to fruit trees or vines will be

promptly confiscated and your store or salesroom will be placed in quarantine—of this take due notice."

FRESNO *Enterprise*: E. M. Stevens who has one of the finest vineyards in this part of the county says he will have less than half a crop. Mr. Stevens has 200 acres in raisin vines from five to eight years old and for two years past has cured fine crops of raisins. This spring when the killing frost came there was a promise of at least 200 tons in the vineyard. The vines now look well but the crop generally is light the youngest vines showing very little fruit. Mr. Stevens says his raisins will be sold on their merits, and when he receives the money he will deliver the goods. He has sold on the consignment and contract plan for two years and has graduated.

THE Dixon *Tribune* reports that there has been another unaccountable falling off this year in summer fallowed grain grown on the Dixon ridge. J. S. Mayes has been harvesting grain this week which gave every evidence of yielding from twelve to fifteen sacks per acre but which is actually turning out but four or five. Other farmers in the vicinity are having the same experience. No one seems to know exactly what the matter is. Some attribute the falling off to the late frosts and others to the ravages of the Hessian fly. On the lower lands, where the rain was more backward, the yield is exceeding expectations and will do much to make up the general average for the whole section.

STOCKTON *Mail*: "At the next meeting of the Board of Supervisors there is talk of instructing the county peace officers to strictly enforce the county ordinance for the protection of the county bridges. As already reported in this paper the combined harvesters are playing havoc with the county bridges and culverts, and an investigation has shown that many new bridges have been crushed, simply because more weight was placed upon them than they were built to sustain. Not more than 2000 pounds on four wheels should be put upon them, and it is said that the weight of many of the harvesters is as much as 2800 pounds. Unless the bridges are repaired by the owners of the machines, there is talk of suing them for damages and also of proceeding against them criminally."

WATSONVILLE *Pajaronian*: "The *Pajaronian* is open to publication of big yields of strawberries and other crops, and here goes for a starter: On a tract of four acres, in Amesti district, owned by R. Pinto, 102 chests of strawberries were gathered in one picking. The berries in a chest will weigh 100 pounds, and this yield aggregated 10,200 pounds of fruit, an average of 2550 pounds of fruit per acre—a ton and a quarter of strawberries. The berry fields are divided into sections, and each section is picked over once each week. Who can beat the Pinto showing? We are ready to publish the big yields. Two or three years ago R. W. Eton got 17 chests from a half acre, which is ahead of the Pinto showing, and was at the rate of 3400 pounds to the acre in one picking.

Another Short Wheat Year in Australia.

Supplies Short and More Grain Will Be Ordered From California.

The Sydney *Morning Herald* of June 6th publishes the following:

Breadstuffs locally have a somewhat firmer tone, in view of improved future prospects. A line of thirty tons of local roller flour sold at £10 5s. During the week a good deal of business has been done in local wheat, as high as 4s 5d having been paid for good-sized parcels. From Adelaide we learn that the market there is strengthening. There seems to be a strong belief in some quarters that South Australia has not much more than sufficient wheat to meet her own requirements; holders were consequently firm at 4s 6d per bushel. That colony has been supplying Western Australia since the beginning of the year at the rate of about 1000 tons of flour per month. A good deal of American flour, it is said, is finding its way into the Western market by way of Singapore and Hongkong. A Singapore firm of millers act as representatives of the Western Australian buyers. This naturally curtails to some extent the drain on the South Australian surplus. For some years back the South Australian millers have been building up a connection in South Africa, Western Australia and Queensland, and it is just now questionable which of these markets will be most neglected through the scarcity.

On the 3rd of June the following was published in the *Herald*:

The position of the breadstuffs market is now becoming more clearly defined. For some time back the receipts of the local grain by rail have been of the most meager character, and each succeeding week has put up a new record for smallness of supply. During the seven days just ended only six tons came to hand, and from what can be gathered from advices from the wheat-producing centers inland there is not likely to be any great quantity forwarded to the metropolis until the new season opens. Victoria has no wheat for export. In South Australia prices are firm, and for a large parcel even more than present current rates would have to be paid.

Our Adelaide correspondent wires on this date some interesting figures regarding the South Australia surplus, which fully bear out the opinion that the greater portion of our deficiency must come from outside the colonies. He gives the total export to date as equivalent to 53,896 tons, thus leaving approximately 31,100 tons to be exported. The exports to New South Wales to date are given as 232,030 bushels of wheat and 8889 tons of flour, or equal to 14,600 tons in all. We thus find that only 26 per cent of the colony's export reached New South Wales, and should the same proportion continue during the remainder of the season there will only be 8086 tons to come forward to this port. As, however, a portion of the remaining surplus will probably be carried over until next season, the export to Sydney may be still further minimized.

The New Zealand surplus, it now appears, was on paper only, and the prices and general tone of the market in that colony bear out that view of the case. Advices from Christchurch received June 2nd sum up the position thus: "If prices were to have tumbled down,, as some expected, they would have done so long ago. This is at least our idea." Millers here have grain to carry them on for several months to come, say to the middle of August. So that it would seem that importations will recommence before the season is out, and that these importations will be on a fairly heavy scale. From the middle of August until the middle of December, before which no great quantity of new wheat can be expected, leaves four clear months during which the consumptive demand will have to be supplied from somewhere or other. It is expected that the resources of America will again be called upon to make up the deficiency.

Army Worms in San Joaquin.

Army worms are reported from San Joaquin county. It is fortunate that the grain all over the county is so near the sack, as otherwise the visitation of the army worms would result in the loss of thousands of dollars. As it is, they can do little damage before the grain is harvested. The army worm could do considerable damage to vineyards now. So far as known, however, they have not made their appearance anywhere except in the neighborhood of Linden.

Notes on the Peach and Myrobolan Roots.

TO THE EDITOR:—The following observation on peach and myrobolan root I'll give to the readers of the PACIFIC RURAL PRESS if you think them of benefit:

Sour Sap.—The Agricultural Experiment Station at Berkeley gives in its last report, on page 235, the cause and remedies of sour sap. In my judgment of this disease I think the gentlemen have given this subject the same careful study that they give all matters they undertake to investigate.

To their remedy for sap souring I would add and recommend the late peach root for the French prune in any locality with severe March frosts. The sap in this tree starts much later, and so they escape this destructive enemy.

To illustrate this fact I'll give the following observation: Having a myrobolan and a late peach seedling on the same soil, I noticed the former blooming in February, while the latter is perfectly dormant. Going over to the French prune on myrobolan, I find the sap is active and the roots of some of the trees sending up suckers. These will grow at times 2 feet before the trees attain their foliage, while on the other side trees on peach root give no sign of life. To these trees the severe frosts of March and early April are of no injury, and when the sap starts they will receive their foliage in a very short time; while on the other side it takes the trees on myrobolan roots weeks before they recover from their injury, so received, and consequently they bud out very slowly.

I also notice in this locality that the French prune on peach root will ripen much sooner, and when ripe will drop freely, while the fruit growing on the other root will dry on the tree, and sticks have to be used to knock off the last gathering, occasioning additional expense in harvesting the crop.

The only objection against peach root I hear of is short life. This is easily overcome by a yearly symmetrical pruning. Prune trees in this orchard have at the age of thirteen made 2 feet of growth up to this time, July 2nd. T. C. ASMUS.

Eagle Ranch, Dove, San Luis Obispo Co.

Prof. Woodworths' Note on Sour Sap.

In view of Mr. Asmus' allusion to the last report of the University Experiment Station we take the paragraph to which he refers to make his account more complete:

Sour Sap.—This is a disease due to a number of forms of bacteria. Like the gum disease of the orange, the organisms are not properly parasites, but rather decay-producing forms, which, under peculiar circumstances, have become parasitic. Two forms of sour-sap may be distinguished—the root, and the top souring. The former commonly follows standing water, and is particularly common in a hollow lined with hardpan. The latter is most abundant in spring, and follows late severe frosts.

Mr. P. H. Atkinson, of Sebastopol, Sonoma County (April 15, 1894), writes in reference to the disease in his prune orchard: "The trees recently budded out, some of them bloomed, and about 20 to 25 per cent began to wilt and die; * * * you will notice that there is quite a sour smell. I have had one or two cases in former years, but nothing like the wholesale destruction now going on. People here call it sour-sap, but do not know what is the cause of it, nor what remedy to adopt. If the tree is cut back (nearly all the top being taken off) it sometimes revives, but generally dies altogether; at other times the top dies and the myrobolan root sends up suckers. The trees affected are in all kinds of positions. * * * I have had the same thing happen occasionally to peaches, but not to any extent.

When the disease is noticed, the tree is generally beyond help, though it sometimes revives. The treatment, if on the roots, is drainage of the soil; if above ground, severe pruning.

Another Fruit House Drops.

The vicissitudes of merchants connected with the fruit shipping trade would fill volumes. From the very first, before the business took on any size, it had a way of breaking up people, and even recently its course is strewn with financial wrecks. The latest to go under is described in a dispatch from New York, on Monday of this week, as follows:

The E. L. Goodsell Company, fruit auctioneers and fruit importers, made an assignment to-day to Victor K. McElhenny Jr., without preferences. The company was organized in March, 1885. W. W. Flanagan was president and E. L. Goodsell vice-president. The authorized capital was $300,000 of which $166,000 was paid in. The company did a large business, but it did not prosper and several attachments were issued against it last spring.

It is unfortunate to have such troubles attend the fruit trade, but it is perhaps incident to a newly established line of effort. Fruit dealers have indulged in expansion quite as much as fruit planters have. The business should get upon a solid conservative basis as soon as possible all around.

CAMP ROACHE Summer School, near Wright's, is proceeding this week, with Prof. Woodworth and Mr. Hayne as agricultural speakers and Prof. Ross on economics. Next week Profs. Hilgard and Wickson will take agricultural subjects and Prof. Ross will complete his course.

Weather and Crops.

Report of Conditions Up to the 6th Inst.

The following synopsis of the weather and crop conditions during the week ending Monday, June 29, is issued by the State Agricultural Society in cooperation with the U. S. Climate and Crop Service, James A. Barwick, Section Director:

Sacramento Valley Counties.

TEHAMA COUNTY (Corning).—Harvesting is in full blast. (Pentz).—Highest and lowest temperatures, 102° and 54°.

COLUSA COUNTY.—Highest and lowest temperatures, 98° and 55°.

GLENN COUNTY (Elk Creek).—Fruit crop is better than expected. Highest temperature, 105°.

SUTTER COUNTY—Figs are being shipped in large quantities. The apple crop will be fair.

PLACER COUNTY (Auburn).—Hot winds have caused wheat and berries to shrink. (Newcastle).—Weather favorable for fruit. Highest and lowest temperatures, 100° and 50°. (Roseville).—Grain is plump and full.

SACRAMENTO COUNTY.—Highest temperature, 109°.

YOLO COUNTY (Winters).—Apricots are ripening exceptionally slow this season notwithstanding the excessive heat. They ripen prematurely about the pit and continue to remain green on the outside, something that fruit growers are unable to account for. (Tremont).—Crops are turning out well.

Napa, Sonoma and Santa Clara Valleys.

SONOMA COUNTY (Gurneville).—Fruit crop is a failure, but the hay crop is a heavy one. Some of our hop fields have been planted to beets, carrots and corn. (Freestone).—The apple crop will be a light one.

SANTA CLARA COUNTY (Los Gatos).—Fruit shows signs of early ripening; apricots are fully a week in advance of last year. Apricots in the districts where frosts struck them are now cracking badly. Prunes and pears are doing well.

SAN BENITO COUNTY (Hollister).—The season has been later than usual, but all crops are looking well. Highest and lowest temperatures, 84° and 38°.

San Joaquin Valley.

SAN JOAQUIN COUNTY (Lodi).—Wheat has been somewhat shrunken by north winds. Highest and lowest temperatures, 99° and 48°.

FRESNO COUNTY.—Peaches abundant and of superior quality; pears looking well; apples only a fair crop. (Reedley)—Highest and lowest temperatures, 102° and 76°.

Southern California.

Weather cool and favorable for the bean crop; beans are looking well. Highest and lowest temperatures, 80° and 47°.

Mountain Counties.

MODOC COUNTY.—The hay crop will be larger in this county this season than it has been for years.

SHASTA COUNTY (Anderson).—Although most other fruits are scarce, there will be plenty of pears. Prunes will be scarce, but grapes will be a plentiful crop.

The New Raisin Combine Collapses.

Report has it that the latest plan for selling raisins, of which we have given account in the RURAL, has gone to pieces. On July 1st a joint committee of five, appointed by the Fresno Chamber of Commerce and the One Hundred Thousand Club to formulate a plan for marketing raisins, held a meeting and decided to prosecute their work no further. They passed resolutions stating that the reason for their action was that raisin growers had not given them the support in their undertaking which was expected, that success was beyond their reach and further work was useless.

The fact seems to be that these progressive gentlemen who have in the past run the real estate and counting-house features of the raisin business have not convinced the growers that they constitute the sort of Moses which the times require. They have succeeded in getting too many people into trouble to make a record of getting people out of trouble. Their sweat boxes were not made for raisins and there was a palpable misfit. The local co-operative associations are, however, still in the field and their work may ultimately solve the question. It is becoming more and more evident that more education must precede a general co-operation.

There are eleven co-operative companies in Fresno county, against five last year. Each company is composed of raisin growers, who join in packing their own raisins at actual cost, and all co-operatives sell through one committee. Last year they handled 12 per cent of the crop. This year they expect to handle more than half. The raisin crop is very light this year. The pack will perhaps fall 100 cars short of last year.

Bogus Jellies in San Francisco.

In a land of fruit the markets should be free from bogus fruit products, and the city Board of Health proposes to have them so, if possible. It is criminal if such abominations are made in this land of fruit and it is an insult added thereto if such things are brought in from distant or foreign parts to be sold here. We hope the prosecution will push such business to the wall. Of eight samples bought in San Francisco, four were of goods sold as currant jelly. Of these the chemist said:

Sample B 2 is made from the damaged fruit; sample E 8 is made from badly damaged fruit and is colored with aniline dyes; sample A 2, in tumbler, is a combination of apple and currant jellies; sample A 2, in tin can, is apple jelly with some currant jelly. That labeled "Raspberry" is found to be apple jelly colored with aniline dyes. The "blackberry" jelly was found to have been made from damaged fruit.

One sample of alleged "strawberry" jelly was found to be a compound of apple and turnip pulp, and another a mixture of strawberry and apple.

The law under which prosecutions are directed to be begun make it a misdemeanor, punishable by fine and imprisonment, to sell without a notice on the label that the contents are a compound any article of food in which adulterants have been used.

THE POULTRY YARD.

Advice to Beginners With Thoroughbreds.

Jesse Latshaw tells the readers of the *Northwest Horticulturist* something of the value of thoroughbreds and gives the beginner good advice about using the poultry shows to find out where he stands—or, rather, where his birds stand as representatives of their breeds.

Advertising Good Stock.—I venture to say that to advertise is the only road to success. It is impossible to sell breeding stock unless you let the people know you have stock for sale. A small advertisement in two or three agricultural and poultry papers will prove to be a profitable investment. Be sure and have first-class stock, and then it is no trouble whatever to get a first-class price, which is the most important part of the business. To prove to the public that you have good stock, ship a few of the best birds to some first-class poultry show; but do not expect to take all the prizes—if you do you will get left every time. If you get one first prize and two or three second and third prizes, you are fortunate and can make up your mind that you have some good stock.

Using the Standard and Score Cards.—If just starting in the poultry business, in order to find out which is your best stock send $1 to some agricultural or poultry paper and get "The American Standard of Perfection," as adopted by the American Poultry Association at its eighteenth annual meeting at Chicago, Illinois, in 1893. This book contains a complete description of all the recognized varieties of fowls. It is well worth ten times its price. It explains every point of a fowl and explains which fowls will qualify and which will not qualify. To learn the important points of a fowl one should make a score card for each fowl that it is expected to send to the show, and score them yourself according to the standard. When you receive the score cards from the show you can compare them with your scoring, and then you can see your mistakes at once. I claim that a new beginner can get five years' experience with one year's good attention to the standard and to his stock. It is an interesting as well as a profitable study. Remember, I am not a stockholder in any newspaper; I am not an agent for the book, "The Standard of Perfection," as some might think by the way I speak, but I would like to see the farmers of this State more interested in thoroughbred poultry, as I think they will be in the near future.

Opening Trade.—I have received forty-six orders from new customers this spring and they are mostly all farmers. I think that is very good, considering the hard times. If the rest of the breeders are doing as well, or better, we will soon have one of the best poultry States in America. There is no excuse for farmers not procuring thoroughbred stock, for they have all the advantage there is over the city and village breeders, who keep their stock on a 25-foot lot. A farmer can feed stock at almost one-half the expense of the breeder who keeps his fowls in small yards, and will receive better results. If a city breeder can raise funds at a profit by buying all of his feed and paying high rent and taxes, why can not the farmers have at least 50 per cent the advantage? But one should not be discouraged if he does not sell $500 or $1,000 worth of breeding stock the first year, for it takes a little time to get acquainted and be known as a first-class breeder before the public. You can not figure on more than 50 per cent of your increase as first-class breeding stock.

Midsummer Hatching.

To the Editor:—Some time ago you stated that the hatching season was over. We were then too busy to answer, but thought how extremely careful an editor of such a widely-read paper must be to avoid injuring some interest of his customers. It may be of use to you and interest your readers to know that there is really no fixed season for hatching or growing chickens on the Pacific coast. While the rainy season, or from January to May, is the favorite one, yet the remaining months are as favorable, under certain conditions. These are that lice are prevented lodgment on the chicks and that the growing birds have shade, with green food, meats and fresh water.

The reason why it is often stated that chicks do not thrive here in hot weather is because the above are not attended to.

The fruit season, with its varied demands; summer, with its many social pleasures and, perhaps, the lassitude attendant, all conduce to neglect of the details vital to the chicks' welfare.

We are among the largest breeders of high-class poultry and probably hatch more with incubators than any on this coast, and we do not find any difference in vitality or growth in the chicks hatched during the whole year. Of course, ante-natal conditions must be attended to—the food suitable and sick or diseased birds cured or killed, as domestic fowls are subject to several of the afflictions common to humanity in its troubled passage across this whirling sphere.

At this writing there are in separate brooder-yards under the fruit trees some 200 chicks, from two days to two weeks old, and their vigorous races and struggles with meat scraps would indicate activity and strength. We also have machines hatching about weekly, the average egg infertility being about 10 to 15 per cent, and this, too, from hens that have been in constant breeding mating one or two or more years.

From April or May to October or November is really an excellent time to raise chicks, provided the little but all-important things above-named are duly looked after. Carman Bros.

We are glad to have this note. We were aware of the facts and do not think that they are in conflict with our previous statement. For *ordinary* work with chickens the hatching season closed as we said; for *extra* careful and correct work it is not over. But not one in a hundred will give such work at this time of the year, for the very reasons our correspondent gives.—Ed.

Hints and Suggestions.

Poultry House Floor.—The best and most satisfactory floor for a hen house is dry, clean dirt upon an earth floor. The earth in the house should be filled from six inches to one foot above the ground surrounding the house outside; this will prevent it from becoming damp and disagreeable to the occupants. Under the roosts should be thrown a shovelful or more of loose, dry dirt every morning, and the droppings removed at least once a week and the floor swept or scraped. A scratching place should be divided off by setting up boards a foot high, making a pen in which should be kept loose straw or chaff to the depth of four to six inches, and all loose grain fed fowls thrown in this pen. This will keep the hens busy and the busy hens lay eggs. This should not be allowed to become foul, but should be renewed occasionally. A liberal supply of air-slacked lime scattered over the floor will do much toward keeping the house in a good, wholesome condition.

Grease for Roosts.—Acting on the suggestion that grease of any kind is sure death to vermin, Mr. Mapes tells the *Rural New Yorker* that he tried the experiment of smearing the roosts, perches and cross bars with melted tallow or "cottolene." This was painted right on the perches during the daytime, and the result was that, so long as the grease remained on the perches, not a single mite could be found on them, and the hens were absolutely free from these insects. As is known, these mites leave the hen during the day and crawl on the under side of the roost, working only at night. In this way, the tallow or other grease painted on the roost, not only kills those that are there, but prevents the hatching of the eggs, and thus makes an end to the whole foul race. While this might not kill the large gray, or body louse, it is perfectly sure death to mites, and this treatment is well worthy of a trial by all poultrymen who desire to get rid of this henhouse pest. Be sure to do the painting in the daytime, when the hens are away, and put the grease on thick enough so that it will stay on quite a long time.

Sawdust in the Feed Room.—For a feed room, scratching and roosting room, an eastern poultryman believes a board floor, covered about one inch deep with dry pine sawdust, is the best possible to have. Nothing equals sawdust as an absorbent, and the odor is pleasant and health-giving. If you ever by accident have an inch of water settle on a floor, you bail out what you can and then put on the dry sawdust, and in a few minutes you remove the sawdust, water and all, and you again have a dry floor. Just such an occurrence as above led to the adoption of sawdust as a permanent covering, and from its use for the past five years nothing will induce him to abandon it. With this he uses dry leaves, sometimes straw and sometimes hay. It is not a good idea to use the latter, as the fowls will eat it, and must in consequence consume more or less filth.

A Dust Bath.—For a bath a correspondent used boxes in the henhouse, but has discarded them and studied nature's plan. If in the same room, dust is all over everything; without it, the room is at all times neat and clean. His dust box or dirt baths are small sheds, built on south of house and on the natural earth; they are three feet high, roof covered with boards and paper, have windows in front, and are raised so that no water can get in. No ashes or artificial dust. Nothing pleases the hen better than mother earth, and nothing is its equal for a bath. Access to dust house is by a small door only, ten by twelve inches.

Young Turkeys.—The first thing to do when a brood of turkeys is hatched is to examine the hen for lice. Lice come from the hen to the chicks. Look closely on the skin of her head and neck for the large lice and anoint her head with melted lard, rubbing it well into the skin. Then dust her thoroughly with fresh insect powder. Do the same to the young turkeys and rub one drop of melted tallow on their heads. Too much grease is fatal to them. Keep down the lice and never let the young ones get damp. You will raise nearly all by so doing, as the large majority of young turkeys die from the great head lice. Feed on hard-boiled eggs, curds, bread dipped in milk, finely chopped onions, rolled oats, and keep ground bone before them.

Boiled Wheat.—Boiled wheat for chicks has proved better than all other foods used. Simply boil the wheat until it is soft, and feed it in troughs to the chicks. It must not be sloppy, but fed as dry as it can be under the circumstances. Make a trial of the boiled wheat, and it will be found valuable in saving many of the chicks that have no appetite.

Hens as Weed Killers.—If a hen and chicks are placed in a yard or confined on a small plot, every blade of grass, as well as every weed, will be destroyed, and in a few days the plot will be as clean as if burned over. When hens are confined in yards, the yards are clean and bare of vegetation. When the hens are on a range, they also destroy thousands of young weeds, which is not so noticeable, but which is nevertheless the case.

FLORIST AND GARDENER.

Seasonable Hints.

To the Editor:—I submit the following as the result of my observation:

When to Cut Flowers.—The best time is early in the morning, before the dew dries off, as then they are in full vigor. In the afternoon, especially on warm, sunny days, they are devoid of sufficient sap and will not keep as long as those cut in the morning before. If one has to use the flowers some time after being cut, they should be laid in a box, dampened, kept cool and closed. It is still better to wrap the flowers in damp cloths or paper. This will further exclude the air. In this way they can be kept for several days nice and fresh.

Watering in the Heat of the Day.—Most people have the erroneous belief that it is not right to water or sprinkle plants during sunshine. Now, all the plants will suffer more or less from dry sun heat, especially roses; therefore, they should be sprinkled, if one can afford the time, several times during the day. The warmer the day the oftener they should be sprinkled, no matter if the water is cold. All the foliage and ground surface should be well sprinkled, more so on the sides of houses, etc. This gives a fine humid atmosphere, which is most essential to plant growth, and will cure and prevent mildew. Many kinds of roses suffer very severely from mildew, produced by hot, dry weather, as well as by damp atmosphere at a low temperature. This damp and low temperature, I notice, gives or causes the blight or curl on peach trees. That is the reason why no peaches will do well around here at all. Henry Melde.

Eureka, Humboldt Co.

Hints to Rose Growers.

T. R. Hopkins, a florist at Seattle, gives the *Northwest Horticulturist* a few hints which may be of assistance to California readers as well.

Cutting Roses to Keep.—All semi-double roses, such Papa Gontier, Bon Silene, Gen. Jacqueminot, etc., should be cut while in bud and placed in a cool, dark place, with the fresh ends of stems placed in water. They will then open in a short time, varying according to the variety and stage of advancement of the buds when cut. Do not use tin vessels for holding the flowers, as this will discolor the leaves and stems in the water. Bride, Catharine Mermet, Waban, Bridesmaid, Marshal Niel, Perle des Jardins and all like double roses will not require cutting until they become more advanced, then treat as advised for the others. La France is a very difficult rose to handle without losing its color, and even with the utmost care it can hardly be kept in good shape for one day, so readily does it lose the peculiar silver pink tint and becomes a very undesirable shade. La France is better left on the bushes until nearly time to be used; but on no account put them to service until they have stood in water one hour or more. It is simply astonishing how quickly fresh-cut flowers will wilt, while those which have been cut over night and left standing in water will remain fresh much longer. A cool cellar is perhaps the best place for keeping flowers. It is none the worse for being dark. Flowers which have been on ice do not keep so well.

Washing Off Aphis.—I would recommend spraying with clear water, thrown with considerable force, such as the city waterworks furnish in nearly all cities. The water may be directed under the leaves and thus dislodge the insects without discoloring the foliage. Care should be taken not to wet the leaves when the sun is shining brightly, as the water on the leaves will cause them to burn and spot. The best time to spray is in the early morning or evening. However, let no person expect that insects can be kept in check in this way except by constant care.

HORTICULTURE.

What Shall the Nurserymen Do?

In view of low fruit prices and the turning of city capital from orchard planting to mining, it is a good deal of a question with the nurserymen as to what they shall do. They cannot propagate "mining plants," and that is about the only kind of vegetable that goes at present. Some nurserymen have decided what to do, and that is to "get out of it." Others believe they should stay in on a more moderate schedule, and that is probably the best policy on the whole.

What an Eastern Nurseryman Thinks.—At the convention of the American Association of Nurserymen in Chicago last week N. H. Albaugh of Ohio led in the discussion of the subject, "To Plant or Not to Plant." This was considered from the nurseryman's standpoint, of course. There is no doubt, he said, in the mind of every nurseryman that if the prevailing wholesale prices of nursery stock were to be guaranteed by this association to continue for the next five years we should turn our attention to cattle raising in Texas, or sheep raising in Vermont, or peach raising in Georgia, or some other business, and close up our nurseries, call our agents home and give the farmers a blessed rest for the next five years. But, with the hope that springs eternal, we say that pears at 4 cents and 3-cent apples and 2-cent peaches and 5-cent plums cannot continue, and these dull times we are now having will soon pass away. Somebody says that the market is about stocked, we have got about as many orchards as people will take the fruit of, and consequently our business is about at an end. What are the facts?

Growth of the Country.—We are meeting in Chicago as horticulturists, and I doubt whether there is within a radius of thirty or forty miles around this city enough fruit to supply the citizens of this city one week out of the fifty-two in the year, probably not half as much. Here is a city that twenty-one years ago, when our association first met in it, had not half the population that it has to-day. In twenty years more it is likely that this city, with its suburbs, will number two millions and a half; then there is a little town north of here on the lake, Milwaukee, with four hundred thousand people; you go to the northwest and there are the two twin sisters, St. Paul and Minneapolis, with nearly a million people, and there are towns springing up all over the country; and all these people have mouths to feed and stomachs to satisfy, and somebody must do it. When you look at it in that view, we feel sure we are not raising more trees than the people ought to plant.

The Nurseryman's Policy.—Now shall we plant, or shall we not plant, as nurserymen? I say plant, but do not plant extravagantly. I believe if there were fewer trees put out for a year or two there would be more money for what were put out, and the price would be maintained to a reasonable living price. Let us go a little slow; let us plant not quite so much as usual; let us make calculations to put our own men in the field to sell the stuff, and not depend entirely on supplying our trade, because we may be left, as each nurseryman is trying to grow enough for himself.

I think, with these things taken into consideration, and the quantity of fruit that this country will consume, and a reasonably conservative action taken in regard to the planting for three or four years to come, will go largely towards solving this terrific problem that is before the nurseryman to-day, that he does not get enough at wholesale from his trees to pay the actual expenses of growing and digging them.

The Southern Walnut Growers.

We alluded recently to the Los Angeles meeting of the Walnut Growers' Association, held to form a central organization and lay out a plan of campaign for disposing of the incoming crop and establishing prices and grades. The following members were present as shown by the report in the *Rural Californian:*

R. M. Fuller, Wm. Wedemeyer, E. H. Ashley, J. A. Montgomery, J. J. McClelland, A. Dorman, H. L. Montgomery, T. L. Gooch, D. M. Gate, T. R. Passons, G. W. Hutchings, A. Duffiel, J. Moyse and I. P. Fleming, all of Rivera; S. T. Daniels, George D. Carleton, Sydmer Ross, A. McDermont and B. F. Porter of Fullerton; Col. P. T. Swaine and Chas. S. Swaine of Los Nietos; A. T. Pendleton and A. H. Basten of Placentia; George H. Bonebrake and M. Meldelson of Capistrano; John R. White of Burbank, Willis Morrison and A. E. Davis of Downey, Wm. Shugg of Monte, and Mrs. H. A. Bond and A. W. Worm of Los Angeles. The election of officers being first in order A. E. Davis of the University was chosen president and Sydmer Ross secretary. The committee on order of business—consisting of Messrs. Dorman, Porter, Montgomery, Mendelson, Snow and McDermont—reported the following program: Organization of growers; best mode of marketing and preparing for market; diseases of trees; cultivation and irrigation, general remarks, and time for next meeting.

Following much time was taken up in the different plans and methods of securing united action among all the walnut growers of southern California, the matter finally simmering down to organizing thoroughly on the same lines that the Orange Growers' Exchanges are operated, namely, with a central organization to which the several district organizations shall send delegates, the central organization to be a clearance house or sales agent for the different districts. It was shown that through the associations the cost of handling walnuts was three-fourths of one per cent, much lower than could be accomplished individually, and, that by organization, special protection was afforded the small grower. On the best modes of marketing, Messrs. Gooch, Coffman and Porter gave the benefit of the experience in their associations. The question of the advantage of sulphuring walnuts for the market was the subject of much discussion. It was agreed that the use of sulphur was of no particular benefit.

Touching the central organization the opinion of the convention was voiced in the following resolution:

Resolved, That steps be taken for organization and such organization shall be composed of the various directors of all local associations of southern California.

It was decided to call a meeting to arrange the manner of marketing the incoming crop, establishing grades, prices, etc., be called for the first Tuesday in August next.

Prof. Newton B. Pierce, agent of the National Department of Agriculture, stationed at Santa Ana, gave a very interesting talk on diseases affecting the walnut, and dwelt especially upon the fungous growth now prevalent in groves in this county. He explained his experiements with inoculation of seventy-five trees, seventy-two of which were completely infected. His remedy was spraying trees twice a year, before the nuts are set and later in the spring with the Bordeaux mixture. Five cents per tree was said to be the average cost of spraying.

Cultivation and irrigation was discussed at length, but no definite conclusions were arrived at. Just before adjoining the following resolution was passed:

Resolved, That the horticultural commission of this State be requested to adopt vigorous measures to prevent the selling or distributing, by any person, of walnut trees affected by any disease whatever.

Pruning the Silver Prune.

It is well known, says the *Tree and Vine*, that the silver prune tree has a tendency to bear fruit and produce vigorous new growth out on the end of the branches, something after the manner of the peach, and, indeed, in this climate, quite as much. Trees that have this growth already should be severely cut back at the regular annual pruning which will force out a new growth in the center of the tree, and the new growth can be kept alive and vigorous by a judicious pinching back in the summer, or what is known as summer pruning. In this way the new growth, fruit and spurs for future bearing can be kept in the center of the tree as well as toward the end of the limb, and a larger crop will result. Those who have good silver prune trees will probably find them as profitable as any with this treatment.

Ants on Fruit Trees.

To the Editor:—Can you inform me how to keep the little black ants from going up the fruit trees and eating the fruit or something that will kill them or get rid of them in some way. I have 700 trees and they destroy a large amount of fruit.
Harris, Cal. E. A. Jinks.

Ants can be killed in their underground habitations by pumping in sulphur fumes with a squirrel smoker—if you can find the habitations. As this is not easy it is more practicable to fix the trees so they cannot get up. Take paraffine, or some other impervious paper, and cut so as to make bands 6 inches wide and draw one around the trunk of each tree and fasten with a tack. If the bark is rough so that avenues are left under the paper, put on a piece of old sacking first and draw the paper tightly over that. Spread cheap printing ink over the paper band and renew it as often as necessary to keep it moist and sticky. Do not put the printer's ink or tar or anything of that sort directly on the bark.

Florida Oranges.

An agent of the Florida Fruit Exchange tells the *Citizen* of that State that he estimates next season's orange product at 125,000 boxes, against less than 50,000 for the present year. The recovery of the trees is not as rapid as expected, but is satisfactory. About half the injured acreage is being recovered by active efforts—the rest neglected or indifferently cultivated. Twenty years will be required to replace the bearing surface in existence before the freeze. Yet many large owners who invested in the southern counties after the disaster are coming back and pushing the recovery of their lost groves, while not abandoning their new ventures. It is thought a better orange can be grown in the northern part of the belt.

The Pomelo or Grape Fruit.

C. B. Hewett of Pasadena has given much attention to the pomelo, the ruling fashion in the citrus family. He prepared an account of his researches for the Southern California Pomological Society, which will be read with much interest.

Historical and Medicinal.—This wonderful citrus fruit was first introduced into Florida about 1839 from Jamaica and Pernambuco. It was planted more as a curiosity and not thought much of, only being eaten by the old Floridians as a spring tonic and to drive away malaria, until the live Yankee got hold of it about 1884 and began to introduce it into the larger Eastern cities. As it had great medicinal qualities, the doctors of the East soon began to recommend it for indigestion and as a tonic to tone up the system in the spring; also as an appetizer.

The majority of the people who eat this fruit do not like it at first, and many have not tried to like it on account of the extreme bitterness of the rind and membrane, or lining between the pulp. The correct way to eat this peculiar fruit is to separate, or take away, all this lining and eat only the pulp; or, better still, cut the fruit open through the center, dig out the seeds and core, then sprinkle a little sugar over the pulp (working it in a little with a spoon or knife), let stand several hours or over night; eat just before meals. This way one soon learns to like and even crave for it. Unlike strong drink or stimulants that create a craving appetite, the pomelo is not only harmless but beneficial, and will, I understand, even alleviate the rum appetite, and if persistently used cure drunkenness. There is nothing in the fruit line yet discovered that has the medicinal qualities of the pomelo. Hence the demand will increase from year to year and take all the fruit that will be grown in the United States for the next twenty years.

The Supply Last Winter.—The product of Florida was about wiped out by the great freeze in that State in 1894–95, and this past season, what few pomelos the east obtained from the extreme southern border of Florida and South America, brought fabulous prices. A few boxes sent from California sold at from $10 to $20 per box in Boston and other eastern cities. Very common and poor fruit from Jamaica sold in Buffalo at from $12 to $15 per barrel. Of course these high prices will not continue when the live California planters get trees in bearing. There is not, however, any doubt but the demand has come to stay, and that it will increase as the fruit becomes known.

Varieties.—Most people think there is but one variety. This is a mistake, as all fruits have different kinds. I traveled over all parts of Florida during the winters of 1890 and 1892 looking up the best varieties, and bought trees of what I considered the four best and planted them at South Riverside. I found the Seedless a large fine fruit, having all the medicinal qualities desired with only an occasional seed; is a very luscious fruit. The one I considered next best was the Aurantium, or Sweet Rind, a cross between the pomelo and orange. It has none of the bitter about the rind or lining, and only a trace of it in the pulp, and still much of the flavor of the pomelo as well as that of the orange, and will suit the taste of all. I do not think, however, that it has the medicinal qualities of the bitter rind. I also found a very fine fruit in St. Petersburg on the Gulf coast called Leonardy's Grape Fruit. This has as thin a rind as the orange, is juicy, fine flavored, with all the medicinal qualities. I also found the Walters. The original tree was on the place of a Mr. Walters at Belleview, Florida, and the fruit is the largest of the bitter rind I ever saw. The tree was over twenty years old and had some 5,000 pomelos on it weighing from two to three pounds each. I secured trees budded from all four of these varieties, and have them all in bearing but the Aurantium or Sweet Rind, which will probably bear some fruit this season. I consider these varieties the best yet discovered. The more common varieties of seedlings are about all called Triumph, and will stand in comparison to these varieties as the seedling orange does to the budded varieties.

Figures Too Large to Publish.—The Seedless will undoubtedly take the lead over all others. The California growers who get the first orchards into bearing will undoubtedly have a gold mine in the shape of gold-producing fruit that will outdo all other fruits in this respect. It is no fad, but the demand has come to stay and will increase for years to come. It will take at least ten years of active planting for California to make up Florida's loss in this line. I have given this fruit my especial attention for at least five years, and if I were to do any more citrus planting it would be nothing but the pomelo.

The tree is the finest of all the citrus family, is a thrifty grower, has large glossy leaves, and a tough wood that will bear its enormous weight of fruit

without propping. I have seen as many 6,000 pomelos on a single tree that would average 32 ounces each, or 12,000 pounds of fruit on a tree 22 inches through the trunk three feet from the ground, and the tree over 40 feet in height, and 30 feet across its widest branches. The fruit from this tree sold for such a fabulous price that I will not mention it here for fear of being set down for a combined Florida and California liar.

Frost and Tender Wood Growth.

To THE EDITOR:—In regard to complaint of banches of prune trees dying off I would say that I have found that it is caused by late severe frost when such trees were just in tender growth. The frost seemed to stop the flow of sap; after awhile the leaves dropped, and on a good deal of those injured foliage is falling yet. I had four little apricot trees which died from the effects, and all the fruit trees I noticed are more or less crippled which will affect even next year's crop.

Eureka. H. MELDE.

ARBORICULTURE.

American Nut Growing.

NUMBER VII.

Budding and Grafting.—In Europe both budding and grafting of the walnut have been practiced from early times. Loudon states that both processes were much more successful in northern Italy and southern France than in northern France or in England. In the United States both budding and grafting are more easily done at the South than in the North. The methods most commonly followed in the nursery are flute and ring budding, practiced with dormant buds in the spring when the sap is in motion or late in summer, as with fruit trees. It has been found that both methods succeed best when the operation is performed at the collar. Annular and flute budding are preferred to the shield method as being more likely to succeed and less likely to have the young shoots broken down by winds.

In the United States but little attempt at budding the Persian walnut has been made outside of California. Felix Gillet, of that State, uses both ring and shield methods, budding in summer and using only the small buds from the base of new shoots. He cuts the shield of bark to be inserted not less than 2 inches long and as broad as possible. The wood is carefully removed without injuring the base of bud, and the branch or shield inserted in the ordinary T-shaped slit made through the bark on a smooth, round section of the trunk of the tree. A bandage is bound evenly with a uniform pressure above and below the eye to insure the contact of the entire under surface of the shield with the cambium layer of the stock. These buds remain dormant until spring, and the bandages are then cut and the tended sprout trained up the stump of the tree, which is left several inches high, until late in summer.

Knight records an instance of successful top-working of the Persian walnut by saddle grafting. "Young or last year's wood was employed both as a scion and as the stock. Both scion and stock were allowed to unfold their buds and grow for a week or ten days before the operation of grafting was performed. Previous to doing this, the young shoots and foilage were rubbed off. Out of twenty-eight instances twenty-two grew well, many producing shoots nearly a yard long and of very great strength. The scions were attached to the young (annual) wood of stocks, which were between 6 and 8 feet high, and in all cases they were placed to stand astride the stock, one division of the scion being in some instances introduced between the bark and the wood, while in others both divisions were fitted to the wood and bark in ordinary way. Both modes of operating were equally successful. In each of these methods of grafting, it is advantageous to pare away almost all of the wood of both the divisions of the scions, and therefore the large pith in the young shoots of the walnut tree does not present any inconvenience to the grafter."

Other methods that have been successful are cleft sap grafting, prong grafting, and hot-house grafting.

Cultivation.—During the first few years in orchard clean cultivation is advised, though if well fertilized the ground may be used for low-growing hoed crops and even for smaller and short-lived fruit trees.

Pruning.—The walnut needs but little pruning, and California growers cut only those limbs that would interfere with teams in cultivating. When laden with fruit the limbs are kept propped to avoid cutting. When cutting must be done, it should be with a slanting cut from the underside of the part remaining on the tree, or the wound should be well waxed to keep water out of the large pith where decay is apt to begin.

Age of Bearing and the Yield.—In California the age at which bearing begins is reported at from 4 to 10 years; and in the Atlantic States at 10 to 20 years. The trees come gradually into bearing; they seldom yield more than 4 to 5 nuts the first year of fruiting and from 2 to 5 pounds the second year. In Spain and south of France there are trees believed to be over 300 years old which bear from 15 to 18 bushels of nuts each.

HARVESTING.

Loudon says: "The fruit of the walnut (*Juglans regia*), both in France and in England, is commonly knocked from the trees by threshing the extremities of the branches (on which alone it is produced) with long poles. By this process many of the points of of the branches are broken, which causes the production of many spur-like shoots that afterwards bear flowers and fruit. Hence the custom of beating a barren tree to make it bear. Bosc considers that beating down the fruit with poles is injurious to the tree; but in France, he adds, 'as the trees are not in inclosures this barbarous practice is altogether unavoidable. If the trees were inclosed, or if property exposed by the roadsides were sufficiently respected, it would be unnecessary to beat down the nut at all, as the wind alone, when the fruit is completly matured, would be quite sufficient to detach it from the tree.'

"In gathering up the fruit that is either beaten down or has fallen naturally those nuts which have separated from the husks are kept by themselves, taken home, and spread out on a boarded floor in an area, shed, or granary, to the depth of 3 inches. Here they are turned over daily till they become perfectly dry. Those fruits from which the husks have not separated in the fall are placed in little heaps on the ground, but still under cover, and turned over and gently beaten till the husk separates. In France care is taken to prevent these heaps from fermenting, or 'sweating,' as it is called, because that occasions change in kernel and gives an unpleasant flavor to the oil. When the nuts have been thoroughly dried those not wanted for crushing for oil are laid by, often in wooden boxes or chests, where they are not subject to the changes of the atmosphere; in such places they will retain all their good qualities for about twelve months. In Britain the nuts of the walnut may be preserved fresh and fit for the table or for sowing for a year either by burying them in dry soil or sand so deep as not to be reached by frost, the heat of the sun, or rain; or by placing them in dry cellars and covering them with straw. The latter mode is most commonly abopted by the growers of this nut for the London market. Walnuts should not be gathered until their outer covering parts readily from the shell, which will be before the covering becomes mealy. There is a critical time at which the hull leaves the shell without staining it, a result sure to follow if the hulls are allowed to remain on and become soft. After being hulled the nuts should be well dried in the sun for a day or two and then stored away, either on shelves in an airy room or packed in jars or boxes in dry, white sand, which improves the color of the shell, and keeps the kernal more moist."

Concerning Loudon's advice not to gather the nuts "until the outer covering parts readily from the shell," it must be said that it can not always be followed in the United States. There appears to be a marked difference in this respect due either to a difference in varieties or to a cause not yet understood. In some portions of California and in Delaware the hulls open on the trees and the nuts fall to the ground as freely as do the almond and the shell-bark hickories, while the reports indicate that in portions of Arkansas the hull is as persistent as that of the black walnut, even after the nut is fully mature. In southern California the Persian walnut commences ripening about the last of September. Where the nuts "pop out of the hull," as some correspondents express it, the practice is to clear the ground in September of all leaves, and pick up the fallen nuts about once a week. California growers are very generally opposed to beating the trees with rods, believing that the dormant fruit buds are injured thereby. Where the hull remains persistent after the nut falls to the ground the practice of harvesters is to leave the nut on the ground until the hull turns dark. The hull is then removed by hand or by placing the nuts in a revolving churn or some such suitable device. A revolving cylinder with internal projections to hatchel off the hulls of nuts with fragile shells would doubtless be useful in hastening this process. Where the hulls have discolored the shells the nuts are washed to remove stains. Some growers bleach the nuts with sulphur fumes, but this practice should be discouraged, owing to its injurious effects on the quality of the meat. In the larger orchards gangs of hands are started after the nuts have commenced to fall. Taking row by row through the orchard these men slightly jar each tree that the ripe nuts still on the tree may fall. The nuts are picked up into baskets and taken to the drying house. As soon as the first round is finished the second is commenced. In four or five rounds the crop is gathered. By this method Mr. Heath harvests the crop of his 180 acre orchard.

The soft-shell ripens a little earlier than the common nut and they both vary somewhat according to the season. Mr. Sexton generally commences to pick on the 10th to the 15th of September, and the gathering continues during a month or six weeks. The walnuts are picked up and put in sacks and barrels, so as to be easily handled, and are then hauled to a sunny place to dry.

CURING.

The curing of walnuts for market is an operation demanding much care, They are dried on platforms or trays, either in the sun or by artificial heat, and when properly cured they will not turn rancid or sour for several months in an ordinarily dry cool place. The platforms for sun-drying are made of narrow boards with spaces one-fourth of an inch wide between the boards. The platform should be about 8 feet wide, 40 feet long, and the beds should be covered with canvas at night to protect the nuts from dew. The nuts should be stirred once or twice each day, and with favorable weather they will dry sufficiently in three days to be ready for market. Mr. Sexton dries his walnuts in the sun, and they have given good satisfaction, and for small orchards he thinks this the cheapest and best way, though where large quantities must be handled artificial heat must be used. Mr. Heath uses a simple drying house, in which the nuts are subjected no a heat of 200° for six or seven hours, the nuts not being removed until they are thoroughly cured. He affirms that this mode of curing does not injure them for use as seed.

MARKETING.

The walnut is marketed in sacks, the greater portion in what are called walnut sacks, which hold about 120 pounds. Some growers screen the nuts, assorting the different sizes. The prices realized by growers, as recorded in different reports, range from 4½ to 20 cents per pound. A few nuts are gathered green for pickling and for catsup.

In France the cheap nut is sold to the oil mills and the finer ones are shipped to market. One hundred pounds of walnuts will produce about 18 pounds of oil. It is said that half the vegetable oil used in France is walnut oil, or about three times more than is used of olive oil. We are not aware that the walnut oil has ever been manufactured in the United States.

THE ORNITHOLOGIST.

Horticulture Brings New Birds to the Desert.

The extension of horticultural areas brings birds to regions hitherto avoided by them. This is a fact of old record but instances of it have rarely been so entertainingly described as they now are by J. H. Gilmour of Palm Springs, a horticultural oasis in the Colorado desert in the southeast corner of California. Mr. Gilmour gives the *Chronicle* the results of his observations, first upon the cicada, or so-called locust, then on the birds.

The Stillness of the Desert Broken.—Certainly the character of the desert is fast being lost. Horticulture effects some singular transformations. The characteristic of the desert was its "solemn stillness." It seemed as if nature were taking entire rest. Few things moved. The whole country was motionless. The air was heavy and still. One was racked by continual fearing, melancholy silence rested on the face of the land, its stillness being only broken by the nerve-racking whirr of the cicada.

What a noisy creature it is. Try to read, try to think, try to be amiably disposed toward your fellow man, but when that ceaseless whirr commences, that irritating, ear-splitting whirr, I defy any man who is human, who has nerves, and who feels uncomfortable when the thermometer shows 110° in the shade, not to feel murderous, for the cicada always selects as his hiding place a tree close to your open window.

In desperation I have emptied both barrels of a No. 10 shotgun into a pepper tree and loud above the noise of exploding powder, louder than before, more strident jeering, with fantastic twirls and twists, the cicada has whirred merrily on. He is insensible to powder and shot. The more you fire into the thrice accursed tree the louder he plays on. It is as a mark of honor to him. He commences at early morn, anon he stops, and you flatter yourself he has betaken himself to some more distant tree. Vain thought! He starts the diabolical machinery of his noise. He graduates it. First it is low, like the creaking of a dry wheel on a brewery wagon; then another whirr follows, then another. Then he grows bolder, and successfully imitates the rattle of a freight train, louder and louder. Here a creak, then a groan, then a hiss of escaping steam and then a churning and a grinding, then short, sharp cries as if all the evil spirits in the many chambered abodes of the damned were sending up simultaneously a pitiful cry for release from their fiery cells. Then is patience exhausted. You rush to the offending tree, you peer carefully into the branches; the whirr comes from your left, you look to the left; no it is on the right; no, surely above; why, it must be underfoot. You give up the hunt in despair. You consign the cicada—there is only one—to nameless tortures. You flee the spot, for there is no repose where he is.

Coming of the Birds.—But is the rancho on the desert silent now? It is not. From the four corners of the earth have birds come, and made Palm

Springs their home. Are they a blessing? The farmer, with an eye solely to business and unblessed with a love for birds, vainly wishes there were no birds—that we could return to our old state of unbirdness. Pleasant it is to hear their songs and cries, for the air is never quiet now. The "solemn stillness" of the desert is gone. Mocking birds scream at each other from the trees, orioles chatter unceasingly, linnets chirrup, doves coo—the open grave of nature—but a peopled wild.

The Tanager.—But while they flood the air with tuneful melodies they make us pay dearly for their songs. They ravage without cessation the orchards. No tree can ripen its fruit without paying tribute to these voracious little monsters. They have a fine contempt for the shotgun. Their moral senses are completely blunted, and they have no fear of death. They sing as merrily over the corpse of a brother as over a luscious fruit. Of all orchard pests the tanager is, in my opinion, the most destructive. He is indeed a beautiful bird, and as he darts about the orchard his gay yellow plumage enlivens the umbrage with golden dashes. He is a stout-beaked, heavy-headed little fellow. He is impervious to fear. He has no hesitation in attacking unripe fruit, and this he completely destroys. Sometimes, out of pure wantonness, he will not eat, but will bite the fruit from the stem to let it rot on the ground. It is a matter for consolation that he does not stay with us all the year. He comes in from the south about the end of April, and the first few days of warm weather finds him on his way to Banning, there to continue his devastating work till he flies to the mountains for the summer.

Quail and Doves.—The quail are now coming down from the mountains and are busy among the rapidly forming grapes. The destruction two hungry quail can do is enormous. They generally hunt in pairs, and it is almost impossible to trap, shoot or destroy them, for they easily hide among the vines, and are so cunning that you can pass and repass them without their giving you a sign of their obnoxious presence. Never have there been so many doves as during the present season. They swarm upon the ranches in great flocks. During midday they half bury themselves in the dust under the shade of the apricot trees, only taking shelter in the high cottonwoods when startled in their siesta. They really do no harm. They pick the fallen seed of the weeds and are thus a true friend to the farmer. They never attack the grape as do the quail, or the apricots as do the tanagers and linnets—and still the same unjust law holds against birds as we sometimes imagine it does against man. No one covets the flesh of the tanager, that destructive orchard pest, and yet the dove is shot at and killed for his meat—for of all birds the dove is the gamiest food. It does not seem an injustice, for if the tanager were good eating there would be a relish attached to his killing—now he is only killed to protect fruit, and his ornamental body is crucified on a tree to serve as a fatal warning to his brilliant brothers, but it does not.

Birds in Great Variety.—So numerous have the birds become, new varieties appearing every summer that with the aid of French Gilman I am enabled to give the name of almost every bird that can be found in this valley. The list is already long, when it must be remembered that five years ago there was scarcely a bird to be seen, and so rare was their song that a new note was instantly commented upon. How different it is this morning. Orioles are singing about the house, mocking birds are maintaining a ceaseless chatter, humming birds with their queer little chirrups are darting among the honeysuckle or flitting over the alfalfa patches which are now in full bloom. The grosbeak, the wren and other birds are easily noted. Life, pulsating life, is now the characteristic of the place—a change, a vast change to the dull throbbing stillness of five years ago.

Their Times and Seasons.—Among the birds most prominent now is the much spoken of Western tanager. He comes here about the middle of April and leaves in the first weeks of May. The blue grosbeak is first seen in March and is with us through May, while the blackhead grosbeak stays here through April and May. The black crest flycatcher nests here and remains through March, April and May. The Western bluebird is among the first arrivals. He shows himself in February and leaves in April for the mountains, where the females nest. The birds which nest here are Cassin's kingbird, Bullock's oriole, Scott's oriole, Arizona hooded oriole, ash-throat oriole, doves and house wren. The house wren is almost a new bird. He has been quite numerous this year, and, from the numbers that have been making their homes among us for the past month, we may look upon them in future as regular visitors. The house wren, however, nests not in the valley, but in Andre's canyon. The dwarf hermit thrush, a mountain bird, was first seen here this May. He has never been noticed before, and I am inclined to believe that this has been his first visit to the valley. Other birds that nest here are the house finch or linnet, the Western nighthawk and the cactus wren. The nest of this bird is always placed in the very heart of this thorny brush, making it almost impossible for any rude destroyer to reach it.

When the snow is on the mountain and all around is cold, we have with us the mallard, the red-head, sprigtail, widgeon, greenwing teal, cinnamon teal, butterball, shoveler and the black-crown night heron. The sandhill cranes have been very numerous this year. They only stay a day or so and are soon away for the coast.

Though humming birds are numerous during the summer, they have never been so numerous as at present. They are not so brilliant in plumage as those we see in Los Angeles county. There are only two varieties—the rufous-back humming bird and Anna's humming bird.

Desert Birds.—The birds common to the desert are Le Contes' thrasher, the California valley quail, Gambier's partridge (desert quail), the red-tail hawk, sparrow hawk, Western horned owl, ground owl, golden eagle, white-crown sparrow, mocking bird, the butcher bird or California shrike. The butcher bird is so called owing to his murderous propeusities. He catches lizards and spikes them upon the sharp thorns of a tree, and, when sufficiently preserved, it is presumed he eats them. He follows with assiduity the plow, and woe betide the unhappy field mouse upturned by the share. He pounces upon the "timorous beastie" and rapidly dispatches it. Then there is the kildee plover, black Phœbe. Of all annoying birds the red shaft flicker is the most tantalizing. He is never so happy as when boring into the wooden frame of a house. His ceaseless tap is most provoking. He can never be frightened away, and death alone secures you from his persistence. It is his habit to make a hole and therein perch with head out. Then comes the lark sparrow, the barn swallow, the tree swallow, violet-green swallow, the verdin or yellow-head bush tit, the avocat (a snipe). Among the winter birds, the robin must not be neglected. Then we have the Lawrence goldfinch, the Arkansas goldfinch and the American goldfinch.

The Destructive Crow.—This catalogue, I believe, completes the list of birds that winter and summer with us. As vegetation increases we may secure a few more. Some can well be spared, especially the crows and ravens. These ill-looking birds are especially fond of watermelons, and the amount they destroy during the season is remarkable. Early watermelons in the Los Angeles market are worth from 50 to 75 cents apiece, and two miserable crows will consume many dollars' worth of melons during daybreak.

THE STABLE.

Put in a Cement Floor.

It is a good time of the year to put a good floor in the stable, or at least to figure on doing it a little later when the hands get through with the harvest. The best floor is one made with Portland cement, and Waldo F. Brown tells the *Prairie Farmer* how to do it after grading and establishing the desirable levels.

Materials and Mixing.—The best material to mix with the cement is coarse, sharp sand and finely crushed stone; and with these materials ten parts of stone can be used to one of cement in the lower four inches, and four parts of sand to one of cement in the upper four inches. I have been laying more or less cement each year for the past eight years, and all my floors have given perfect satisfaction. I have used gravel for the concrete and have screened my sand out of the gravel, using a sieve with one-fourth inch meshes. Next in importance to good material is thorough mixing. In making the concrete we measure, either by counting the shovelfuls or by using a bucket, putting eight parts of gravel to one of cement in a heap, then shoveling it over three or four times so as to mix it all thoroughly. The last time we shovel it over, a third person stands with a watering pot and sprinkles so that it will be thoroughly dampened, but not enough to drip. We are now ready to commence laying the floor, which we do in sections about four feet wide, beginning at the end opposite the door. For a horse stable floor we use five inches of concrete and one inch of topping; in the cow stable, three and one-half inches of concrete and one-half inch of topping. We stake down a scantling four or six inches wide, as the case may be, about four feet from the wall of the stable, and finish this section before laying another. We first put in the concrete an inch or two at a time and tramp it solid with a broad-faced rammer, and continue until within one or one-half inches of the top, using a straight edge with a notch at each end so that it will drop down one inch or one-half inch as we desire. When this is put in we are ready for the finishing coat, which is made of two parts of clean, sharp sand and one part of cement, which is thoroughly mixed dry, and then wet and tempered to the same consistency as we would use in cementing a cistern; we then pour it in, filling the mould to the top, turning our straight edge over, notched side up, so that it will be just full to the top. It will be necessary to use a trowel around the edges and in the corners.

Grooves to Prevent Slipping.—In order to prevent horses slipping on it we make grooves four inches apart and something over one-half inch deep, for a distance of about two feet at the rear part of the stalls. These are made by laying down a broom handle, tapping it until it beds one-half its diameter, then move four inches and repeat, thus making parallel grooves four inches apart. We also make these grooves running the other way, in front of the door where we lead the horses in. When a section is finished we carefully lift the stakes and move our edge piece over and stake it, and so continue until the floor is finished. The Portland cement does not set as quickly as the cheap grades, but usually in twelve hours it is hard enough for a man to walk over it, and for the next ten days it should be protected from the sun and sprinkled thoroughly twice a day; this prevents danger of cracking and makes it harden more slowly, insuring a better job.

Level or Sloping.—In the horse stable we prefer to have the floor laid perfectly level both ways and use absorbents to take up the liquid; but in the cow stable, where we have a manure ditch, the ditch six or eight inches deep and two feet wide in the bottom, with the edges slightly sloped outward; then a walk two feet wide back of the ditch on the same level with the floor on which the cows stand. In my stable the manger is also floored with cement; it is made six feet wide and the horses eat from one side and the cows from the other, their hay and fodder being dropped through a chute above into the manger. I prefer that all the floors in a basement stable should be of cement, because, first, plank floors rot out so quickly as to be unprofitable, and second, they always furnish a harbor for rats.

Breaking the Colt.

This important work is often poorly done and a method full of kindness and care is that described by a Tasmanian horseman, Mr. F. D. Roberts, and published in a Government journal in that province. Mr. Roberts says the first thing is to have a good yard, not too large, just room for the colt to walk around you without being in danger of getting kicked. Get the colt in by himself, then go in the yard by yourself. The next thing is to catch him; if he is timid be careful not to frighten him; let him know you are his master, but will not hurt him; you should not know fear nor anger; never be in a hurry with him. Stand in the middle of the yard and let him walk round you; if you are not frightened he will lose fear of you. You should have a small whip in your hand, but be very careful how you use it; you must study the temper of the colt; if he is quiet and stubborn, you must handle him differently to a timid one. Do not be in a hurry to get the halter on; the first lesson is an important one; let him smell your hand if he will. If he turns his rump to you hit him with the whip lightly and he will turn round to you; then stand still and let him smell your hand: if he turns his rump again hit him the same as before. If you are careful he will soon get so he will not turn his rump to you. When he gets quiet enough to smell your hand, and knows you will not hurt him, you can rub his nose carefully at first, then you should get your hand on his neck, and handle him very quietly; do that a few times before you touch his ears. If he is restless let him have a few minutes spell and walk quietly round the yard, but do not let him turn his rump to you. He will soon get to know you will not hurt him and he will come up to your hand. Handle his head well before you try to put the halter on; let him smell the halter, and stroke his nose and neck with it, put it on his nose and take it off again a few times before you try to put it over his ears; if he pulls away let him go, do not try to hold him; give your whip a crack and he will come up to you again. When you have got the halter on be careful that it does not draw tight on his jaw or hurt him; if it does he will pull back as naturally as a child will pull his finger out of the candle when it burns.

Teaching the Colt to Lead.—The next thing is to teach him to lead; do not try to pull by force; you will not get him to lead well that way. Have your halter long enough to allow him to walk round the yard while you stand in the center, and, if you are careful, you will get him to follow without much pulling; he should not know his own strength. You should teach him to lead before you bring him out of the yard; do not let anyone in the yard with you. Never lunge a colt; handle well before you put the tackling on; get him quiet about the head first; be careful with the bit, do not let it hit him; put the bridle on and let him amuse himself with it for a little while. Handle well before you put the surcingle on; do not put it on tight at first, or you will make him buck; a colt properly handled will not buck. Let him get used to the surcingle before you put the crupper on, and do not put it on tight; let him have the tackling on for a little while before you run him up. Do not rein tight, nor leave the tackling on more than two or three hours at a time for the first two or three days, if you want to give him a good mouth and get him to carry his head well. It will take five or six days to mouth him well. Don't let his mouth get sore, but handle well all over; take

him in the stable and handle his legs well. Pick up all his feet before you mount him.

Teaching to be Driven.—When you have got him to lead well and quiet to handle, put the reins on in the yard and drive quietly round. Get him well used to the reins before you take him out of the yard; then drive him about for an hour, not too long so as to tire. Put him in the stable again, take the tackling off and handle his legs well; then take him out again, ride another horse and lead him, making him keep up alongide; do this a few times, and then put on the saddle. Put the reins on and drive about, and make him answer the reins well.

Breaking to the Saddle.—Then take him in again, give a feed, and rub down well; put the saddle on. Get him well used to the saddle before you try to mount. Get on him in the stable first, and make him stand well for you. Get on and off before you bring him out. Don't have anyone to hold him, then take him in the yard, get on and off in the yard a few times, and he will soon be got to stand quiet. Ride round the yard a few times, then you can take him out, but have some one on another horse to ride with you. Get him to walk well before you trot, and don't ride him too long at a time. Never get him tired at first if you want the colt to carry himself well.

Breaking to Harness.—When you have got him to go nicely in the saddle put the harness on in the stable; most of your work should be done in the stable. Handle well with the harness on and take plenty of time with his legs; get the animal used to the breeching and use him quietly but firmly. Take the harness off and take him out with the winkers on; put the reins on and drive about for a little while, and make him accustomed to the reins about the legs; then put the harness on again and drive for an hour or two; then tie a rope to the traces and hold that with one hand and drive with the other; hold the rope tight just to let him feel the collar; don't pull too hard at first, and he will soon take to the collar. Make him trot with that before you put in the cart; if he sweats take the harness off and wash his shoulders with cold water and rub dry. Put the harness on again and drive for a little while, then show him the cart and let him smell it; put him in the shafts and take out again a few times before you hook in, and so get him well used to them; if you are careful the first time or two, you will not have much trouble afterwards. Have your cart as light as possible at first, so that he can start quietly without having to pull much. Don't put him in anything that he can't start easily with at first till he gets to go well and then you will have a horse that will never stick you up.

THE DAIRY.

Cream For The Churn.

Mr. T. C. Rodgers is the dairy instructor in the Guelph (Ont.) Dairy School, and recently delivered a paper before the Cheese and Butter Makers' Convention of that province. His topic was "The Preparation of Cream for the Churn."

To have success in manufacturing the finest quality of butter it is important to possess a knowledge of the chief factors employed in the cooling, ripening and preparation of the cream for the churn. This commences with the separating and continues till the cream is transferred to the churn.

Ripening the Cream.—With regard to the temperature of ripening cream, we have learned from our own and the experience of others, that the lower the temperature at which cream can be ripened so as to develop sufficient latic acid within a reasonable time, the better will be the texture of the butter. To this end the use of ice and a proper cooling vat, having a surrounding space of seven inches for ice water, are necessary. Cream ripened and churned at too high a temperature will produce butter of a soft, oily texture, and will diminish in value.

The most satisfactory temperature at which to ripen cream is 60° in winter and a little lower in summer, as the milk at that season contains more latic acid when separated. At these low temperatures enough starter should be used to produce sufficient ripening to cause it to turn thick six or eight hours before time of churning. We advise the use of a starter because it controls, flavors and gives uniform ripeness and flavor to the cream from day to day.

The Starter.—The starter should be put into the cream vat when separation commences, in order to control flavors. The quality to use varies from two to ten pounds to 100 pounds of cream, according to the ripeness of the milk and the time allowed for the cream to ripen. When the cream is to be held two days before churning, it should be cooled to 52° in winter and 50° in summer, about half the usual amount of starter being used. The cream should be stirred frequently during the first six hours, and the temperature kept uniform. Our starter is made as follows: Take one gallon of skim milk or whole milk of good clean flavor for each ten gallons of cream to be ripened. This is set in a vessel of boiling water and heated to 160°, stirring constantly; then move from the hot water and let stand for twenty minutes, after which cool to 75° or 80°, and add about a quart of the old starter, having a fresh, clean flavor, together with six quarts of clean water at the same temperature, to each ten gallons of the pasteurized (heated) milk. Then mix well and set in a clean, warm place. Do not stir until ready to use it, then break up fine by pouring or dipping before straining into the cream.

Right Temperature for Churning.—The cream should be cooled to churning temperature at least one hour before churning, to harden the fat globules. The lower the temperature at which cream can be churned in forty to sixty minutes, the better will be the texture of the butter. The richer the cream up to a certain point, the lower the temperature at which it can be churned. The best results are obtained when the cream contains about 30 per cent of butter fat, when it can be churned at about 52° to 54° in winter and 50° to 52° in summer.

Cream that has been lowered below the desired churning temperature should be very carefully warmed by surrounding the cream vessel with water at a temperature not higher than 65°, and then the cream should be constantly stirred.

Butter makers must adopt low and uniform ripening and churning temperatures to obtain a firm, uniform quality of butter.

The Value of Breeds.

The Experiment Station at Geneva, N. Y., has been conducting some tests with four of the leading breeds and reports the following results which may be taken as another volley in the battle of the dairy breeds.

The process adopted was to establish, as fairly as could be done, the prices for the milk per hundred weight, for the milk solids for cheese making per pound, and for butter fat per pound; these figures were placed at $1.28 per hundred weight for milk, 9¾ cents per pound for milk solids, and 26¾ cents for butter fat. On this basis Ayrshire milk was worth as such, during the year, $87.24 per cow; its solids for cheese making were worth $81.14; and its butter fat for butter making was worth but $64.47. The Ayershire, according to this showing, would be worth more to the milkman than to the cheese maker, and more to the cheese maker than to the butter maker. The milk of the Guernsey was worth $68.98, the milk solids were valued at $75.04 for cheese making, and $75.18 for butter making. Here, the Guernsey is shown to be more valuable to either the butter or cheese maker than to the milkman. The milk of the Holsteein proved to be worth $101.35 when sold as milk, $87.41 in the hands of the cheese maker, and $70.07 in the hands of the butter maker. The Holstein is, therefore, a better milkman's cow than a cheese maker's and a better cheese maker's cow than she is a butter makers's cow. The milk of the Jersey at the price assumed was worth $64 58; the solids were worth to the cheesemaker $72.37, and its butter fat was valued at $74.30. The Jersey is, therefore, just the reverse of the Holstein-Friesian. She is at her best in the butter maker, and the next most profitable use for her milk is cheese making; it is least profitable to the milkman. The Shorthorn gave milk worth $72 50, the solids in the hands of the cheese maker were worth $80 85; the fat in the hands of the butter maker was worth $50.03. The figures prove the milk of the Shorthorn the most profitable for manufacture into the cheese, the sale of milk standing second in point of profit, and the butter value coming last.

Some Figures on Cheese.

In a recent report Major H. E. Alvord, of the United States Diary Division, says:

Nine-tenths of the cheese produced in this country is made in the States of New York, Wisconsin, Ohio, Illinois, Vermont, Iowa, Pennsylvania and Michigan, ranking in the order named. The New York product alone is almost one-half the total, and this State and Wisconsin together make over two-thirds of all made.

It requires the milk of about one million cows to make the cheese annually pressed in the United States.

The value of the annual cheese product of this country varies from $20,000,000 to $25,000,000.

About 9,000,000 pounds of cheese are imported annually into the United States.

The rate of consumption of cheese in America is about three pounds per capita per annum.

Consumption of cheese is apparently somewhat decreasing.

Good cheese is approximately composed of one-third water, one-third milk fat, and one-third casein, with some sugar and ash.

Separator Ice Cream.

There can no longer be any question, says *Hoard's Dairyman*, but that separator cream, properly handled, is well adapted for all purposes, including the making of ice cream. The difficulties sometimes encountered, where the cream churns to butter before freezing, seem to result from too much haste in starting the freezer before the mixture is sufficiently cooled down.

THE VETERINARIAN.

Anthrax or Charbon.

The announcement of this deadly disease from the Gilroy region of Santa Clara county should cause all stock men to the utmost vigilance in its detection and vigorous measures to stamp it out on its first appearence. This disease has a world-wide record for virulence. It has been variously called charbon, anthrax, splenic fever, splenic apoplexy, etc., according to the seat of the disease, the kind of animal attacked, and the fancy of the person making the diagnosis. However, these and several others are all names for the same disease. The mortality of charbon is simply terrific—its victims being numbered by multiplied thousands in all infected districts in which it has gained a foothold, and where active preventative measures have not been taken.

Attacks All Animals.—It is also a prototype of an almost equally dreaded disease in man, and this adds not a little to the horror of its appearance in the brute creation. Its especial delight seems to be the most valuable stock, such as horses, mules and cattle, although sheep and goats fall an easy prey to its rapacity, and others of lesser value are not exempt.

Symptoms.—The symptoms are variable, and in very acute cases the animal may die suddenly without any warning symptoms, as if stricken with cerebral apoplexy. In a much larger number of cases, however, there will be fever, chills, loss of appetite, muscular weaknes, tremor, spasm, difficult breathing, venous congestion, hemmorrhages and—death.

Times of Occurrence.—Charbon is found in all countries of the world, and has been known for many centuries.

Many serious epidemics of it have occurred in the United States. These outbreaks usually occur during the spring of the year when those two germ-breeding factors, warmth and moisture, combine to exert their greatest influence. This followed by a season of dryness, the most favorable condition for the dissemination of germs—hence the rapid and continued spread of the disease during the summer months.

It must be apparent to the most casual observer that in the matter of contagion, infection and mortality no other malady which attacks this branch of the animal kingdom can compare with this. Indeed, its power of destruction is so far-reaching, and the consequent pecuniary loss is so great, that the damage extends far beyond the owners of dying stock and smites with a heavy hand every industrial link in the great chain of commerce, including the wage-earner, the merchant, the broker, the mortgagee and the banker. Quarantine against the plague is of no avail whatever, its devastating vemon leaping over space with the alacrity of Asiatic cholera.

Pasteur's Great Discovery.—In 1882, Louis Pasteur, the great French scientist, discovered a "vaccine" which, if injected into a healthy animal, will prevent anthrax or charbon as surely as the well-known vaccine virus prevents small-pox in the human subject.

Just why this remedy should have been so long in reaching the United States it would be difficult to say, for in France, Germany, Austro-Hungary, Italy, Belgium, Spain, Russia, Great Britain, Australia and other countries it has been used with universal satisfaction for several years. Want of space forbids the giving of statistics for all these countries, but it may be mentioned that in France alone more than four millions of animals have been vaccinated with the Pasteur lymph, with an average mortality of less than one-half of one per cent.

Vaccinations in this Country.—Pasteur's anthrax vaccine has been used in a few States, notably in New York, New Jersey, Illinois and Missouri, and, as I understand, with unfailing success. This was especially the case in New Jersey, where ninety-four herds were infected in a single county—302 non-vaccinated animals died, while out of a total of 1600 vaccinations only eight succumbed, and four of this number are known to have been infected before vaccination. The statistics above quoted are from the official report of the State Board of Agriculture of New Jersey for 1895, and are but a repetition of those from all quarters of the globe where prompt and persistent vaccination has been practised. It must not be forgotten that vaccination is not a cure for anthrax—no cure for it has yet been discovered—but its action is purely that of a preventative, and therefore it must be employed before the attack, when its efficacy may be relied on with the utmost confidence. The operation is one of great simplicity; it is wholly unattended with danger, and its expense is almost nothing, as compared with the value of the animal.

Every sound horse, mule and sheep, and every herd of cattle within the range of the affected district should be vaccinated at once, to insure against further spread of the prevent eruption, as well as to provide against future attacks. Animals already hopelessly sick should be killed and burned; even burial of the carcasses does not insure against future infection, as the germs will live in the soil and maintain their virulence for many years. By systematic and persistent vaccination of healthy stock, anthrax might eventually be eradicated.

ELECTRICAL PROGRESS.

The 35-Mile Electrical Power Transmission at Fresno, Cal.

Fresno, the commercial center of the San Joaquin valley, this State, was recently the scene of the completion of a great work, having for result the electrical transmission commercially over

THE POLE LINE.

the longest distance yet attempted of power generated by an artificial fall of water unique in its creation and height.

Not until the successful solution of the problem of long distance power transmission had been reached did the utilization of the San Joaquin river become possible. The San Joaquin Electric Co. adopted the General Electric Company's project and three-phase system of transmission, by which power had already been successfully transmitted from Folsom to Sacramento, a distance of twenty-four miles. The work is now practically complete.

The Hydraulic Plant.—The source of the water power is the North Fork of the San Joaquin, which at the point of diversion runs through a narrow canyon with solid rock walls. The minimum low water flow of the stream at this point is 50 cubic feet per second, which at the head used will develop over 7000 horse power at the water wheels.

From the point of diversion a flume

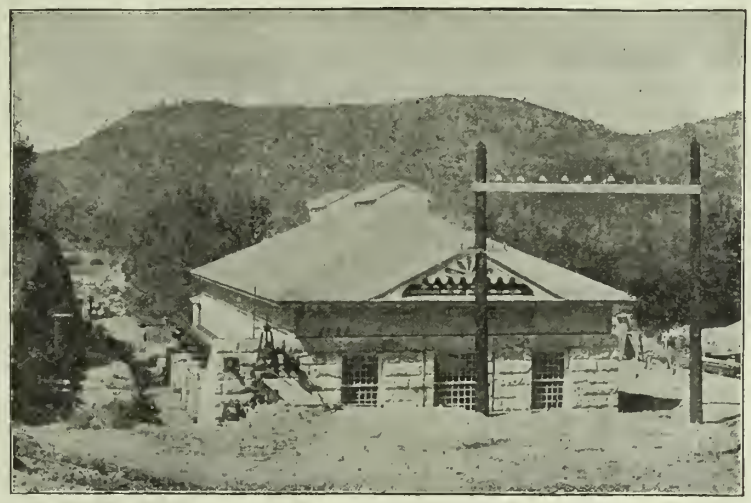
PIPE LINE DESCENDING THE HILL TO THE POWER HOUSE.

has been built and a canal excavated and carried along the slopes of a hill for a distance of seven miles.

RESERVOIR.

They run along a right of way cleared of all obstructions for a width of 150 feet. The grade is 5.28 feet to the mile, and the lower bank forms a roadway for the inspection wagons. As usual in California valleys, the entire system of headworks and canal is unaffected by frost.

At the end of the canal is a natural basin several acres in extent surrounded for about three-quarters of its distance by a dyke of rock, which, for an expenditure of less than $3000, has been continued in an embankment for the remaining distance and a reservoir for storage water formed which at a maximum depth of only ten feet will be sufficient to operate the plant at full load for several days consecutively. This provision will allow of the ditch and flume being shut off in case of repair or changes.



POWER HOUSE, SHOWING END OF PIPE LINE AND RECEIVER OVER PELTON WHEELS.

The reservoir is located at the top of a high hill, the river being some 1600 feet below. From the pressure box in the reservoir the pipe line, 4100 feet long, is brought down the mountain side, and in this distance the difference in level between the water in the canal and the water in the river below is over 1400 feet. For the first 400 feet the pipe is steel riveted; the balance is lap welded pipe, with lock joints, and at the lower end is $\frac{5}{8}$ of an inch thick by 22 inches in diameter.

At the power house the pipe enters a receiver 57 feet long by 30 inches in diameter, of $\frac{3}{4}$-inch steel, with joints of the butt strap type. This receiver is designed to stand a working pressure of 800 pounds to the square inch.

The power house at the bottom of the hill is built of native granite, with a wooden roof. It is 75 feet long by 30 feet wide and is built on a solid bed rock. The receiver and water wheels are outside the main power house, the shafts passing through a heavy granite wall, which effectually keeps all water and moisture out of the dynamo room.

The water wheels are of Pelton make, 57 inches in diameter, each capable of developing 500 H. P. at 600 revolutions per minute under an effective head of 1400 feet, the highest head ever used for power transmission purposes. The wheels are constructed with steel plate centers and bronze buckets, and are fitted with fly wheels 5 feet in diameter.

The 11,200 volt circuit, consisting of six bare copper wires, leaves the power house at the upper end, runs up the stream a few hundred feet, crosses the San Joaquin river with a span of 275 feet wide, and is then led up the mountain for a distance of about 2000 feet. The line continues for about ten miles through a rolling, hilly country, easy of access and at all times below the snow line; the rest of the line runs over a flat country and near Fresno passes through wheat fields and vineyards and follows a special right of way and wagon road for the entire distance. The total length of the transmission line from the power house to the sub-station is little short of thirty-five miles, and is thus the longest commercial electric power transmission in the world.

The poles are square redwood, 35 feet long, set 6 feet into the ground and fitted with three heavy cross arms and one small cross arm for telephone wires.

As a model of construction the Fresno transmission line can compare favorably with any pole line work done in the country.

The sub-station at Fresno is almost in the center of the business portion of the city, and is a brick structure 55 feet by 45 feet.

The system of distribution from the sub-station is divided up into three networks. The first, a 200-volt, four-wire, low-tension network, which covers the business portion of the town and having an initial capacity of 6000 16 C. P. incandescent lamps; the second, a 1000-volt, three-phase system, covering the residence districts of the town and having an initial capacity of 4000 16 C. P. incandescent lamps; the third, a 3000-volt, three-phase circuit, designed to furnish current to the numerous vineyards and wineries within a radius of ten miles from the sub-station, for both lighting and power purposes. Motors will also be furnished with current from both the 200 volt and 1000 volt systems.

The policy of the operating company is of a broad guage character, the end in view being the stimulation of the use of electric power. To effect this end prices are made which compare favorably with that charged for power where steam coal is used.

McCormick Harvesting Machines are built upon honor. They insure purchaser against extortion for repairs.

Picture of a Tornado.

A photograph of a tornado is herewith reproduced from the *Engineering News*. It was taken at Oklahoma City, Oklahoma Territory, 4 P. M., May 14th. The tornado was about six miles distant when the photograph was taken, and a rough computation indicates a probable diameter of the funnel of

about 1000 feet. The print should show the sky much darker than it does, but a tornado is not an easy subject to photograph, most people who have seen one finding other things to occupy their time than taking pictures of the threatening spiral. So far as known this is the first actual photograph of a tornado ever published, and it is believed that only one other has ever been taken. This is referred to in Russell's "Meteorology" as having been secured at the Howard mines, South Dakota, on August 28th, 1884, the cloud then being twenty-two miles away. The accompanying picture as a work of art is a failure, but it may give our readers some idea of how one of those terrible visitants looks.

A Minister's Wife.

The Frank Statement of the Pastor of Bethel Church.

From the Advertiser, Elmira, N. Y.

DR. WILLIAMS.—*Dear Sir:*—My wife has been a sufferer from rheumatism for more than three years, suffering at times with terrible pains in her limbs, and other times with a severe "crick" in her back which causes great agony. She spent much for physicians and medicine, but secured only temporary relief; finally she concluded to try Pink Pills. She has taken eight boxes, and I can say from the first one she has improved until now she is almost entirely free from pain, and has grown much stronger and feels confident that, by the blessing of God, they will effect a permanent cure. We take great pleasure in recommending them to our friends.

(Signed.) REV. J. H. BUCKNER,
Pastor Bethel A. M. E. Church, Elmira, New York.

Dr. Williams' Pink Pills contain, in a condensed form, all the elements necessary to give new life and richness to the blood and restore shattered nerves. They are an unfailing specific for such diseases as locomotor ataxia, partial paralysis, St. Vitus' dance, sciatica, neuralgia, rheumatism, nervous headache, the after effect of la grippe, palpitation of the heart, pale and sallow complexions, all forms of weakness either in male or female. Pink Pills are sold by all dealers, or will be sent postpaid on receipt of price, 50 cents a box, or six boxes for $2.50 (they are never sold in bulk or by the 100), by addressing Dr. Williams' Medicine Company, Schenectady, N. Y.

SITUATION WANTED.

A foreman in a large prune orchard with nine years' California experience wishes a situation during the coming drying season. Is an expert on curing and packing the French Prune, either by pricking or dipping. The fruit in the orchard in which he is regularly employed has been destroyed by frost. Address A. B., care this office.

THE HOME CIRCLE.

Did Not Vote as He Prayed.

A party idolater met
A "temperance crank" by the way.
To sound him the farmer inquired:
"I suppose, sir, you vote as you pray?"
"Indeed, my dear sir, I do not,"
The dauntless "fanatic" replied;
"I pray with my eyes close shut,
But I vote with them open wide."

—Mildred Merle.

The Poppy Land Limited Express.

The first train leaves at 6 P. M.
For the land where the poppy blows;
The mother dear is the engineer,
And the passenger laughs and crows.

The palace car is the mother's arms;
The whistle, a low, sweet strain;
The passenger winks and nods and blinks,
And goes to sleep in the train!

At 8 P. M. the next train starts
For the Poppy Land afar.
The summons clear falls on the ear,—
"All aboard for the sleeping-car!"

But what is the fare to Poppy Land?
I hope it is not too dear.
The fare is this, a hug and a kiss,
And it is paid to the engineer!

So I ask of Him who children took
On his knee in kindness great,
"Take charge, I pray, of the trains each day
That leave at six and eight.

"Keep watch of the passengers, thus I pray,
"For to me they are very dear,
And special ward, O gracious Lord,
O'er the gentle engineer."

—Edgar Wade Abbot.

The Yaller Baby.

I hev allus hed a good opinion uv the wimmin folks. I don't look at 'em as some people do; uv course, they're a necessity, just as men are. Uv course, if there warn't no wimmin folks there wouldn't be no men folks—leastwise that's what the medikil books say. But I never was much on discussin' humin economy. What I hev allus thought 'nd said wuz that wimmin folks wuz a kind of luxury, 'nd the best kind, too. Maybe it's because I hain't hed much to do with 'em that I'm sot on 'em. Never did get real well acquainted with more'n three or four uv 'em in all my life. Seemed like it wuz meant that I shouldn't hev 'em round me as most men hev. Mother died when I wuz a little tike, 'nd A'nt Mary raised me till I wuz big enuff to make my own livin'. Down here in the Southwest, you see, most uv the girls is boys. There ain't none uv them sivilizin' influences folks talk uv—nothin' but flowers 'nd birds 'nd such things as poetry tells about. So I kind uv growed up with the curis notion that wimmin folks wuz too good for our part uv the country, 'nd I hevn't quite got that notion out'n my head yet.

One time—waal, I reckon 'twuz about four years ago—I got a letter from ole Colonel Sibley to come up to Saint Louey 'nd consult with him 'bout some stock int'rests we hed together. Railroad travelin' wuz no new thing to me. I hed been pretty p'osperous—hed got past hevin' to ride in a cabboose 'nd git out at every stop to punch up the steers; hed money in the Hoost'n bank 'nd use to go to Tchicargo oncet a year. Hed met Fill Armer 'nd shook hands with him, 'nd oncet the city papers hed a colume article about my bein' a millionaire. Uv course, 'twarn't so, but a feller kind uv likes that sort uv thing, you know.

The mornin' after I got that letter from Colonel Sibley I started for Saint Louey. I took a bunk in the Pullman car, like I hed been doin' for six years past, 'nd I reckon the other folks must hev thought I wuz a heap uv a man, for every haff hour I give the nigger haf a dollar to bresh me off. The car wuz full uv people—rich people, too, I reckon, for they wore good clo'es and criticized the scenery. Jest across from me there wuz a lady with a big, fat baby—the pruttiest woman I hed seen in a month uv Sundays; 'nd the baby! why, doggone my skin, when I wuzn't payin' money to the nigger, darned if I didn't set there watchin' the big, fat little cuss, like he wuz the only baby I ever seen. I ain't much uv a hand at babies, 'cause I hain't seen very many uv 'em, 'nd when it comes to handlin' 'em, why, that would break me all up, 'nd like 's not 'twould break the baby all up, too. But it has allus been my notion that nex' to the wimmin folks babies wuz jest about the nicest things on earth. So the more I looked at that big, fat little baby settin' in its mother's lap 'cross the way, the more I wanted to look. Seemed like I wuz hoodooed by the little tike, 'nd the first thing I knew there wuz water in my eyes. Don't know why it is, but it allus makes me kind uv slop over to set 'nd watch a baby cooin' in its mother's lap.

"Look a-hyar, Sam," says I to the nigger, "come hyar 'nd brush me off ag'in! Why ain't you 'tendin' to bizniss?"

But it didn't do no good 'tall. Pertendin' to be cross with the nigger might fool the other folks in the car, but it didn't fool me. I wuz dead stuck on that baby, gol darn his pictur! And there the little tike set on its mother's lap, doublin' up its fists 'nd tryin' to swaller 'em, 'nd talkin' like to its mother in a lingo I couldn't understan', but which I liked to hear; 'nd she kissed the baby 'nd stroked its hair 'nd petted it like wimmin do.

It made me mad to hear them other folks in the car criticizin' the scenery 'nd things. A man's in mighty poor bizniss, anyhow, to be lookin' at scenery when there's a woman in sight—a woman 'nd a baby!

Pretty soon—oh, maybe an hour or two—the baby began to fret and worrit. Seemed to me like the little critter was hungry. Knowin' that there wasn't no eatin' house this side uv Bowieville, I jest called the train boy, 'nd says I to him, "Hev you got any victuals that will do for a baby?"

"How is oranges 'nd bananas?" sez he.

"That ought to do," sez I. "Jest do up a dozen uv your best oranges 'nd a dozen uv your best bananas, 'nd take 'em over to that baby, with my compliments."

But before he could do it the lady hed laid the baby on one uv her arms, 'nd hed spread a shawl over its head 'nd over her shoulder, 'nd all uv a suddin the baby quit worrin', 'nd seemed like he hed gone to sleep.

When we got to York Crossin' I looked out'n the winder 'nd seen some men carryin' a long pine box up toward the baggage car. Seein' their hats off I knew there wuz a dead body in the box, 'nd I couldn't help feelin' sorry for the poor creetur that hed died in that lonely place uv York Crossin'; but I mought hev felt a heap sorrier for the creeturs that hed to live there, for I'll allow that York Crossin' is a leetle the durnedest lonesomest place I ever seen.

Waal, jest afore the train started ag'in who should come into the car but Bill Woodson, 'nd he wuz lookin' powerful tough. Bill herded cattle for me three winters, but hed moved away when he married one uv the waiter girls at Spooner's hotel at Hoost'n.

"Hello, Bill!" says I. "What air you totin' so kin' uv keerful like in your arms there?"

"Why, I've got the baby," says he; 'nd as he said it the tears come up into his eyes.

"Your own baby, Bill?" says I.

"Yes," says he. "Nellie took sick uv the janders a fortnight ago, 'nd—'nd she died, 'nd I'm takin' her body up to Texarkany to bury. She lived there, you know, 'nd I'm goin' to leave the baby there with its gran'ma."

Poor Bill! It wuz his wife that the men were carryin' in that pine box to the baggage car.

"Likely lookin' baby, Bill," says I, cheerful like. "Perfect pictur uv its mother. Kind uv favors you 'round the lower part uv the face, though."

I said this to make Bill feel happier. If I'd told the truth I'd 've said the baby wuz a sickly, yaller-lookin' little thing, for so it wuz; looked haf starved, too. Couldn't help comparin' it with that big, fat baby in its mother's arms over the way.

"Bill," says I, "here's a ten-dollar note for the baby, 'an God bless you!"

"Thank ye, Mr. Goodhue," says he, 'nd he choked all up as he moved off with that yaller little baby in his arms. It warn't very fur up the road he wuz goin', 'nd he found a seat in one of the front cars.

But along about an hour after that back come Bill, moseyin' through the car like he wuz huntin' for somebody. Seemed like he wuz in trouble 'nd wuz huntin' for a friend.

"Anything I kin do for you, Bill?" says I, but he didn't make no answer. All uv a suddint he sot his eyes on the prutty lady that hed the fat baby sleepin' in her arms, 'nd he made a break for her like he wuz crazy. He took off his hat 'nd bent down over her, 'nd said somethin' none uv the rest uv us could hear. The lady kind uv started like she wuz frightened, 'nd then she looked up at Bill 'nd looked him right square in the countenance. She saw a tall, ganglin', awkward man, with long, yaller hair 'nd frowzy beard, 'nd she saw that he wuz tremblin', 'nd hed tears in his eyes. She looked down at the fat baby in her arms, 'nd then she looked out'n the winder at the great stretch uv prairie land, 'nd seemed like she wuz lookin' off further'n the rest uv us could see. Then, at last, she turned 'round 'nd said "Yes" to Bill, 'nd Bill went off into the front car ag'in.

None uv the rest uv us knew what all this meant, but in a minnit Bill come back with his little yaller baby in his arms, 'nd you never heerd a baby squall 'nd carry on like that baby wuz squallin' 'nd carryin' on. Fact is, the little yaller baby wuz hungry—hungrier than a wolf—'nd there wuz its mother dead in the car up ahead 'nd its gran'ma a good piece up the road. What did the lady over the way do but lay her own sleepin' baby down on the seat beside her 'nd take up Bill's little yaller baby 'nd hold it on her arm 'nd cover up its head 'nd her shoulder with a shawl, jest like she hed done with the fat baby not long afore. Bill never looked at her; he took off his hat 'nd held it in his hand, 'nd turned 'round 'nd stood guard over that mother, 'nd I reckon that ef any man hed darst to look that way jest then Bill would've cut his heart out.

The little yaller baby didn't cry very long. Seemed like it knowed there wuz a mother holdin' it—not its own mother, but a woman whose life hed been hallowed by God's blessin' with the love 'nd the purity 'nd the sanctity uv motherhood.

Why, I wouldn't hev swapped that sight uv Bill 'nd them two babies 'nd that sweet woman for all the cattle in Texas! It jest made me know that what I'd allus thought uv wimmin wuz gospel truth. God bless that lady, I say, wherever she is to-day, 'nd God bless all wimmin folks, for they're all alike in their unselfishness 'nd gentleness 'nd love!

Bill said, "God bless ye!" too, when she handed him back his poor little yaller baby. The leetle creeter wuz fas' asleep, 'nd Bill darsn't speak very loud for fear he'd wake it up. But his heart wuz way up in his mouth when he says "God bless ye!" to that dear lady, 'nd then he added, like he wanted to let her know that he meant to pay her back when he could, "I'll do the same for you some time, if I kin."—Eugene Field.

Miss Gotham (wishing to astound her Aunt Cynthia, from Hayseed Corners)—What do you think of my new gown, aunt? It was made in Paris.

Aunt Cynthia (severely)—Lan's sake, niece! I allers did hear thet your father was purty close-fisted, but I didn't think he'd go so far as to send to Europe an' have your dresses made by thet cheap foreign pauper labor.

Taper—I should like two weeks' absence to attend the wedding of a very dear friend.

Mr. Gingham—It must be a very dear friend, indeed, to make you want that much time. Who is it?

Taper—Well, sir, after the ceremony she will be my wife.

Gems of Thought.

Hope never hurt any one, never yet interfered with duty; nay, always strengthens to the performance of duty, gives moral courage, and clears the judgment.—Macdonald.

Our true opportunities come but once. They are sufficient, but not redundant. We have time enough for the longest duty, but not for the shortest sin.—James Martineau.

Life is a trial of faith, a discipline of love, a schooling of service. It is manifestly ordered so as to secure the largest and best results in character. This view of life can be got, however, only from the divine point of view.—Philip Moxon.

The right human bond is that which unites soul with soul; and only they are truly akin who consciously live in the same world, who think, believe, and love alike, who hope for the same things, aspire to the same ends.—Bishop Spaulding.

Out of hearts ploughed by contrition spring flowers fairer than ever grew on the hard ground of unbroken self-content. There bloom in them sympathy and charity for other erring mortals and patience under suffering.—Sacred Heart Review.

In the moral world there is nothing impossible if we bring a thorough will to it. Man can do everything with himself, but he must not attempt to do too much with others.—William von Humboldt.

To get up every morning with the firm resolve to find pleasure in duties, and do them well, and finish the work which God has given us to do, that is to drink Christ's cup. The humblest occupation has in it materials of discipline for the highest heaven.—F. W. Robertson.

No Calf There.

The boy was starting out in the world to make a living, and probably a name for himself. His father had given him some money and a great deal of advice. He had a situation in prospect, and as he had never taken kindly to farm work, it looked like a good opportunity for him.

"Thur's one thing I wanter say ter ye," the old man said as he handed the youngster his luggage out of the spring wagon at the station, "an' I want yer to understan' that I say it in all kindness. Ye're goin' away from home with purty good prospects."

"Yes dad."

"An' at the same time ye're goin' ter move inter the neighborhood o' the wicked whur yer foot's liable ter slip any minute."

"Yes, dad."

"Wal, what I wanter say is jes' this. Home's going ter stay right here whur ye can allus turn to it. But times hez been mighty hard latety an' this farm never wan't no great shakes nohow."

"I know it dad."

"So ye might ez well understan' thet ef ye come back 'cause ye wanter see the folks ag'in, ye'll git yer wish, but ef ye come back lookin' fur fatted calf ye're powerful likely ter get disap-p'inted."

Awarded
Highest Honors—World's Fair
Gold Medal, Midwinter Fair.
DR. PRICE'S CREAM BAKING POWDER
Most Perfect Made.
40 Years the Standard.

Fads and Fashions.

Plaids are growing more and more popular, and are found in silks, wools and wash goods.

In wash goods the grass linens are extremely popular. Dimities are found in many new and pleasing designs.

Black and white and brown and white checks in wash silks are very pretty, serviceable and inexpensive for summer waists.

A very stylish plaid waist whose prevailing colors are a rich deep red and black is trimmed with black velvet and has a Spanish girdle of the velvet.

Many pretty effects are seen in the wash silks, which are lower priced than ever. These are principally in small checks and stripes and come in all shades.

Ginghams are no longer in vogue, but there are many new wash goods with an open-work, lacy effect which will be made up over a plain color, and the effect is most pleasing.

The most popular sleeves are made very full, with a soft, drooping effect. They are gathered in at the elbow and fall carelessly to the wrist. The large, stiff, balloon sleeves are dead.

Many of the plaid effects are made in a loose blouse style, and have a double box plait in the center of the back and front. The sleeves are large leg of mutton. Chiffon is much used for evening waists, and made up over a plain silk.

Ribbons are the trimming of waists and gowns the coming season. Plaids in black and white and all colors are much liked. The Dresden ribbons are exquisite, also the gauzy effects which are to be much used as a garniture for summer costumes.

The black silk wrap grenadines are very stylish for waists or whole costumes. One piece, particularly noticeable, has graceful violets and their leaves dotting its surface, and it is made up over a violet silk lining. The trimming is of violet taffeta ribbon. Another grenadine has yellow blossoms scattered over it, and is made up over yellow.

Mental Geography.

The most populous country in Oblivion. Many go there; but few return.

The largest river is Time.

The deepest ocean is Death.

The region where no living thing hath habitation is called Yesterday.

The most highly civilized country is To-day.

The highest mountain is called Success. Few reach the top save those who watch sharply for the passing of the spirit of the mountain, Opportunity, who carries upward all those that seize hold upon him.

The region where no man hath ever set foot is called To-morrow.

The greatest desert is called Life, and it hath many oases. These are called Hope, and Ambition, and Love, and Charity, and Home. And of them all the last is the most beautiful. Besides these are many others, smaller in extent, whence the traveler obtaineth refreshment during the weary journey through Life.

Courage.

Have the courage to tell a man why you will not lend him your money.

Have the courage to wear your old garments till you can pay for new ones.

Have the courage to pass the bottle without filling your glass.

Have the courage to speak your mind when it is necessary that you should do so, and to hold your tongue when it is better that you should be silent.

Have the courage to pay a debt while you have the money in your pocket.

Have the courage to provide an entertainment for your friends within your means, not beyond them.

Have the courage to own that you are poor, if you are so.

Popular Science.

The greatest length of England and Scotland, north to south, is about 608 miles.

Exposure to sunlight is one of the best disinfectants for clothing known. The light passing through glass will not do it.

The mountains of the moon are immensely larger in proportion than those of the earth. The moon is but one forty-ninth the size of the earth, but its mountain peaks are nearly as high. Twenty-two are higher than Mt. Blanc, which is within a few feet of three miles high. The highest is a little more than four miles and a half.

It is well known that female birds are everywhere (as a general rule) of a dingy and inconspicuous hue contrasted with the brilliant colored ornamentation of their mates. The reason seems to be pretty clear. The female bird is forced by its maternal solicitude to spend a considerable portion of its time on the nest, engaged in the important duties of rearing the young. It is practically helpless during this period, and were it conspicuous by its color and readily distinguished from the nest and its surroundings, would fall an easy prey to enemies. The best proof of this is that where the male sits on the nest, and attends to the nursery, it is he who is dingy of hue and inconspicuous and the female who is brightly colored. Even the gorgeously tinted male wild duck turns a dingy, decayed reed color at one season of the year. But this is precisely the time when he needs protection, namely, when unable to fly on account of casting his pinion feathers.

Curious Facts.

The juice of a pineapple cuts the membrane from the throat of a diphtheria patient when nothing else will.

School directors in the district of Duverne, Iowa, have ordered a cyclone cave dug at each of the school houses in the district.

No parental care ever falls to the lot of a single member of the insect tribe. In general, the eggs of an insect are destined to be hatched long after the parents are dead.

The elephant is commonly supposed to be a slow, clumsy fellow, but when excited or frightened can attain a speed of twenty miles an hour, and can keep it up for a half a day.

People who are susceptible to the cold should make a point of wearing loose clothing in cold weather. Loose garments are always warmer than tight-fitting ones, not only because they allow room for circulation, but also because they permit a layer of air between the skin and the outside cold.

The Chinese send three invitations to the guests that they desire to see at their great feast. The first is dispatched two days before the feast, the second on the day itself, in order to remind those they have invited of their engagement, and the third just before the hour has arrived, so as to show how impatient they are to see their friends arrive.

Pleasantries.

Oculist (presenting bill)—I think your sight has been improved.

Patient (looking at the bill)—I could have seen a thing as big as that before I ever saw you.

Salesman: "Do you want to have your goods sent by any particular express?" Customer: "Certainly, if you can find a particular express. I can't."—Roxburg Gazette.

Lucy: "Mamma, may I go over there to the bridge?" Mamma, "Why do you want to go over there, my dear?" Lucy: "Oh, I just want to gargle my feet in the brook."—Truth.

A man was advertised to fly from a certain place; and some one asked Dr. Byles, the old Boston divine, if he were going to see the attempt made. "Pooh, no!" said he. "I have seen a horse fly."—Exchange.

DOMESTIC ECONOMY.

Hints to Housekeepers.

White spots upon varnished furniture will disappear if a hot plate be held over them.

A hot bath taken on going to bed, even on a hot night in summer, is a better cure for insomnia than many drugs.

A heavy flatiron, weighing seven or eight pounds, will do better work if it is passed over the clothes once with a firm, steady pressure than a lighter iron hurriedly passed over the clothes two or three times.

When freckled or sunburnt, elder flower tea is not only soothing and refreshing, but it seems to exercise also a beneficial effect on the skin. A good preparation of glycerine and cucumber will be found a real comfort.

The really best method of cleaning mirrors and windows is to rub them with a paste of whiting and water. When this dries, polish with dry chamois and remove the powder. A little alcohol in cold water also gives a brilliant polish. Soapsuds should never be used.

Bring children up to sleep in the dark, as it is much better for their eyes, the complete darkness being an entire rest. Dark green or blue curtains are the best for bedrooms, and they should be drawn across the window to prevent the glare of morning light falling too strongly upon the eyes. Never place a child's bed opposite a window, as the bright light falling upon the face in sleep is exceedingly bad for the sight.

Some pretty new pin cushions are the size of an orange, filled with bran or cork and covered with a thin silk or satine. The outside covering is of alternate rows of white silk braid, the width of dress braid, used with a colored silk braid. White is used with green, or pink, or gold color; or pink and olive, or two other colors, are used together. The braids are in lengthwise stripes, and where the colors join are covered with a row of brier stitching in embroidery silk.

Domestic Hints.

Chocolate Pudding.—Scald together one quart of milk and three ounces of grated chocolate, and set aside to cool. Then add nearly a cup of sugar and yolks of five eggs. Bake, and when done spread whites on top and brown.

Stuffed Eggs.—Take hard-boiled eggs; shell them and cut in half; take out the yolks and mix with bread crumbs soaked in milk, adding chopped and minced sardines, a little oil, vinegar, pepper and salt; fill the whites with the mixture.

Baked Rhubarb.—Strip the thin skin from the young, tender stalks, and cut in half-inch lengths. Pour boiling water over them and cover for five minutes. Drain off the water, add a cupful of sugar to a pint of rhubarb, put in an earthen or graniteware dish and bake slowly. It should have the consistency of thin jelly and show a pinkish green color.

Vegetable Soup.—Cut two lettuces, two turnips, carrots, onions, a young cucumber and a globe artichoke into neat slices, put them into a saucepan with a little butter and allow them to take a nice color, add two quarts of stock, a bunch of herbs and salt and pepper. Simmer gently for an hour or longer, add two spoonfuls of brandy and a squeeze of lemon juice, and serve very hot.

Cup Cake.—Cream well together one cupful of butter and two cupfuls of sugar. Add the beaten yolks of four eggs, one-quarter of a teaspoonful of salt, the grated rind and juice of one lemon. Stir in alternately three cupfuls of flour and one cupful of milk. Beat well for five minutes, add the whipped whites of the eggs and two teaspoonfuls of baking powder. Beat for a moment and bake in a loaf in a moderate oven about forty-five minutes.

Yours for . . . Asking.

The bargains we now offer in our closing sale are for you and your friends. That you will be pleased with them we have not a doubt.

UNDERWEAR.

Ladies' combination or union suits—vests and pants in one piece—to size 40, at

45c., 65c., 75c., 95c., $1.25, $1.75, $2.25.

A saving to you of 25 to 75 per cent.

Ladies' and Misses' sleeveless vests, to size 38, at **10c., 15c.;** and to size 44, at **25c., 45c.**

Long-sleeve and high-neck Jersey ribbed vests—a full and complete line—at

19c., 22c., 29c., 35c., 39c., 45c.

Pants to match all or nearly all of these at same price.

FINE SILVER GRAY

With long or short sleeves, long or knee pants or drawers, such as others sell at 50c. to 60c., summer weight, closing at—

1 to 3 years, **15c.,**
4 to 7 years, **20c.,**
8 to 12 years, **25c.,**
12 to 16 years, **30c.**

RED WOOL

Pants or vests for ladies or big girls, finest quality made, used to bring $1.25 to $1.50 each garment; we now close

Sizes 28 and 30 at **55c.,**
Sizes 32 and 34 at **65c.,**
Sizes 36 to 40 at **75c.,**
Sizes 42 and 44 at **95c.**

If sizes are out we will fill with gray or white, same quality, same price, unless otherwise directed.

Complete lines of children's wear from baby to big folks, girls or boys, also for ladies and misses, in great variety, at

THE BIG DEPARTMENT STORE,

SMITHS CASH STORE,

414, 416, 418 Front St., S. F., Cal.

P. S.—Send for Complete List, FREE.

Best Patterns at a Low Price.

The RURAL PRESS has arranged with a leading New York pattern house to supply its readers with patterns in the latest fashion at prices very far below the ordinary retail cost. These patterns sell as high as 50 and 25 cents elsewhere. The RURAL is enabled to furnish them to its readers at 10 cents apiece, postpaid, for all sizes and designs. The patterns are handsomely put up in a separate envelope containing illustrations and descriptions and mailed for 10 cents each to those who order them through this office. Address Pattern Department, RURAL PRESS, 220 Market street, San Francisco, giving number and size of pattern wanted.

Popular fashion still includes the shirt waist. The design here given introduces the graceful effect of fullness at the shoulder. The pattern of this easily made shirt waist will be sent to readers of this paper for 10 cents.

A BATISTE BLOUSE.
941-Dunbar Blouse-Waist.
Sizes for 34, 36, 38 and 40 Inches Bust Measure.

A charmingly simple design, which admits of perfect ease and comfort; and until something equally as convenient and comfortable is found the blouse-waist will remain universally popular. The blouse illustrated is of embroidered batiste, the back is full, but not drooping, and the fullness is held in place by a fitted lining of simple cut. The skirt piece at the back may be worn under or outside of the skirt. The collar and cuffs can be of linen or of the batiste, and the front of the blouse fastens invisibly under the front hem. Lawn, Chambery and dimity are the popular wash fabrics used for these blouses, also taffeta and wash silks.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

A NEW CYCLING SUIT.
921-Norfolk Jacket.
Sizes for 34, 36, 38 and 40 Inches Bust Measure.

A popular and becoming design, consisting of the "Norfolk" jacket, "divided bicycle" skirt, and knickerbockers and leggins, suitable for all outdoor excursions, and especially commended for use on the bicycle and in mountain climbing. The "Norfolk" jacket is the favorite garment, as its trim outlines are becoming to all, and has that trig, businesslike air which is suited to the exercise. Tweeds, cheviots, covert-cloths and mohair are the most popular fabrics chosen for these garments, finished with rows of machine stitching.

923-Divided Bicycle Skirt.
Sizes—Medium and Large.

An excellent model for a divided skirt, with the fullness so adjusted both in the front and the back that the division is not at all apparent when the wearer is walking. It measures two and a half yards to each side, thus giving ample fullness for perfect freedom in walking or riding. It is gathered sufficiently on the hips to give a graceful fit, and the plaits back and front are overlapped and tacked for a distance below the waist line, allowing the plaited fullness below to fall perfectly free.

924-Lady's Knickerbockers and Leggins.
Size—Medium and Large.

A practical design, suitable for bicycling, mountain climbing, the gymnasium, and general outdoor exercise. They are fitted trimly at the top by a deep yoke, allowing ample fullness to fall below. Material matching the costume is generally employed for this model, but satin and silk are far more preferable, as they prevent the skirt from clinging. The model for the leggins buttons on the outside, and at the bottom is a strap that passes under the instep. Cloth and canvas are the popular materials, usually dark or of the same color as the costume.

This outfit consists of three separate patterns, and special illustrations and full directions about each pattern will be found on the envelope in which it is enclosed.

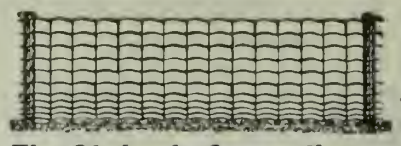
A GRACEFUL HOUSE GOWN.
903-Bristol House Dress.
Sizes for 34, 36, 38 and 40 Inches Bust Measure.

This graceful and becoming room and morning gown is of heliotrope crepon, trimmed with Bruges lace and black velvet ribbons. The pattern is in princess shape in the back, and the fullness of the front is held in place by a fitted lining. The broad collar is especially becoming, and the neck is finished with one of the popular stock collars. Any of the popular silk, woolen, or cotton fabrics may be chosen for this model, with any preferred style of trimming. By the omission of the large collar the model becomes one of the simplest designs for a house dress.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

HOITT'S SCHOOL

Is an excellent institution, beautifully located at Burlingame, San Mateo County, California. Nowhere do boys receive more careful supervision or more thorough training and instruction. The school is accredited at both of our universities, and prepares boys equally well for business. The mention of the name of Ex-State Superintendent Ira G. Hoitt as its master is a guarantee that it is a first-class home school.



The St. Louis Convention

It seems to have been too one-sided to suit some people. It's just so with the Page fence—the combined opposition can't get up excitement enough to make it interesting. When the best farmers, park men and railroads all unite on one fence, it's bound to win.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

WHEN YOU BUY, BUY THE BEST.

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H.★H.★H.

Horse Medicine,

D. D. T. 1868,

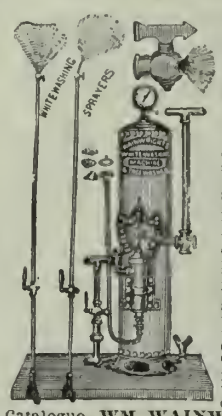
Is Certainly the Best Preparation of Its Kind in the Market. Ranchers, Stock Raisers and Horse Owners of Every Description Will Tell You That It Does Good Work Every Time.

MESSRS. H. H. MOORE & SONS, Stockton, Cal.—GENTLEMEN: In answer to your inquiry, would state that I used your H. H. H. Liniment on my Holland prize-winning cow, "Lena Menlo," for a wrenched shoulder, and it relieved her very much She calved the next day, and while suffering from the sprain gave the largest authenticated quantity of milk ever given on this coast (10½ gallons per day), showing conclusively the great relief received from your remedy. I consider it a necessity in my stables, and when away from home feel perfectly safe, as inexperienced men can do no harm with it as they can with the more powerful blisters. Respectfully yours, FRANK H. BURKE, Breeder of Registered Holsteins and Berkshires. Menlo Park, Cal., January 22, 1889.

Manufactured by

H. H. MOORE & SONS,
Cor. Sutter St. and Miner Ave.,
STOCKTON.....CALIFORNIA.

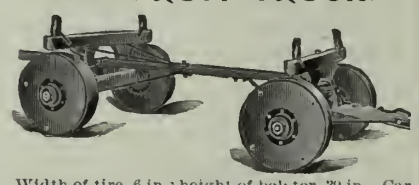
Whitewashing done for THREE-QUARTERS OF A CENT per Square Yard.



LOOK AT THIS!

400 yards of whitewashing or 200 trees may be sprayed in one hour by **Wainwright's Whitewashing Machine & Tree Sprayer.** Machines at prices from $3 to $50. Whitewashing or Tree Spraying Nozzles sent by mail at $1.00 each. With this machine, rods and nozzles, buildings 25 feet high can be whitewashed or trees sprayed without staging or ladders. All the large buildings at the Midwinter Fair were whitewashed with lime and had the appearance of fine paint work. We also supply a full line of the Best and Cheapest Telephones, Transmitters, Wire, etc., for communication between office, warehouse, dwelling, etc. Send for Catalogue. **WM. WAINWRIGHT, No. 7 Spear Street.**

FARMERS' HANDY WAGON AND FRUIT TRUCK.



Width of tire, 6 in.; height of bolster, 30 in. Carries any size platform or bed. Wheels turn under the load. Nothing equal to it for Farm, Orchard and Vineyard. Four sizes, one horse to six horses. Fully guaranteed. Write for Catalogue. Agents wanted. **W. C. RARIG, General Agent, 157 New Montgomery Street, San Francisco, Cal.**

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COLD WATER PAINT.

A **Dry Powder** requiring only the addition of **Cold Water** to be ready for instant use.

For outside purposes it is designed to take the place of **Oil Paint,** where **Economy** and **Durability** are both required. Its covering capacity being fully 100 per cent greater.

For painting Fences, Barns, Stables; also for whitening Walls and Ceilings in Factories, Warehouses, Breweries, Cellars, etc., it's just the thing.

Guaranteed not to scale off, nor change color with age.

Cheaper and Whiter Than Whitewash.

"Outside" furnished in white and colors.

ANY ONE CAN APPLY IT.

When ordering state if wanted for outside or inside use.

Write for complete information and prices.

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Potatoes,

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Potash

in liberal quantities by the use of fertilizers containing **not less than 10% actual Potash.** Better and more profitable yields are sure to follow.

Our pamphlets are not advertising circulars booming special fertilizers, but are practical works, containing latest researches on the subject of fertilization, and are really helpful to farmers. They are sent free for the asking.

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PRICE Traction Engine---80 Horse.

HAY PRESS---30 Ton Day Capacity, 6 Horse Power. Sold Low.

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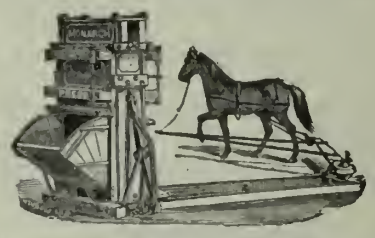

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A WIND MILL

THAT YOU CAN RELY UPON for all the purposes for which wind mills are used is the GOODHUE PUMP AND POWER MILL.

IT IS NOT LIKE OTHERS—IT IS BETTER

GOODHUE WIND MILLS ARE GOOD

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1004 to 1006 K Street, Sacramento, Cal.

"California Fruits and How to Grow Them."
Practical, Explicit, Comprehensive.
PACIFIC RURAL PRESS, 220 Market St., S. F.

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, July 8, 1896.

GRAIN STATISTICS.—Receipts of wheat from July 1, 1895, to July 1, 1896, were in centals 9,270,600; barley 3,009,048; corn, sacks, 242,714; rye, centals, 100,715; oats, 575,968; flour, barrels, 5,452,783. The exports have been as follows in centals: wheat, 1895-96, 10,462,893; 1894-95, 9,603,291; barley, 1895-96, 2,291,081; 1894-95, 652,893; flour, barrels, 954,-623; 1894-95, 915,484. The average prices by crop seasons have been, 1895-96, wbeat, $1.01 2-5; feed barley, 66¾ cents; 1894-5, wheat, 87½ cents; barley, 61 cents; 1893-94, wheat $1.01¼ barley, 56¼ cents. First arrival new wbeat tbis year, May 25, and sold at $1.11¼, new barley June 21, sold at 77½ cents. Tbe average charters for Cork, United Kingdom, Havre or Antwerp, were 1895-96, wood ship, £1 7s; iron, £1 6s 6d.; 1894-95, wood, £1 5s 6d.; iron, £1 7s.

WHEAT.—Tbe market has been interfered with by a three-day holiday in our city and one at the East. This respite from business has enabled large operators to canvas more closely crop prospects at home and abroad and the outlook for the markets in the supply and demand continues. Tbe eastern markets after declining have towards the close shown more strength with an advancing tendency. This, no doubt, is largely due to lower estimates of the yield in the Unitcd States and Canada, and also to a decrease in the visible supply of over 1,600,000 bushels in this country in the face of farmer's deliveries aggregating over 2,200,000 bushels—tbe higbest on record at this time of the year. From January 1, to June 13, the exports of all countries to Europe aggregated 303,384,000 bushels against 332,216,-000 bushels the corresponding time in 1895. This shows a falling off nearly 29,000,000 bushels, whicb the consumption has increased. Writing on the situation at the East the New York *Wall Street Journal* says: "Bulls on wheat had the first encouragement yesterday for several weeks. The Government crop report of June 1, although it was well known to be greatly exaggerated, bad, with the immense northwest receipts, a depressed effect on the cereal all through the montb. The State crop reports will come in now daily, before the Government report on the 10th, and that for Illinois sbows a further decline in condition during June. As the State reports were very much below the Government estimate June 1, it is believed that the Government will have to change its figures for both spring and winter wheat. Thoman's estimate of a crop of 443,000,000 busbels of both spring and winter is considered by some good judges too higb, but if his estimate is rigbt wheat is likely to sell at a good deal higber figures soon. The recent break was intensified by the liquidation of the July option, but similar liquidation will not occur in July, as September is now the trading option."

McIntyre & Wardwell of New York write: "Thoman's crop report for July estimates tbe winter wheat harvest at 271,000,000 bushels, or 13,000,000 bushels less than their estimate of last month, and they put spring wheat at 172,000,000 bushels, which is 58,000,000 bushels less than last year. There is no change in crop news, the only feature being that in a market with an upward tcndency crop telegrams are read and acted upon, whereas with the market going the other way hut little attention is paid to them. Our own advices indicate that the position we havc taken all along, viz: that we would not raise any more winter wbeat this year than we did last, is about correct."

In the local market there is very little business passing. Exporters appear to only buy for pressing wants, and as tbese are light, they have very little influence on market values. The belief is prevalent that the crop this year will be ahout 1,000,000 tons, with the grade hetter than was last year's. This bigh estimate causes buyers to look for an easier market when farmers begin to make large deliveries. Our market is governed largely by the English, while the latter is controlled by tbe Chicago and New York markets. No. 1 shipping is quoted on the basis of 95c, the better grades selling higher and poorer grades selling lower, club $1.05@1.07½ and milling $1.05 to $1.12½.

SPECULATIVE WHEAT MARKETS.—Trading with us has been interrupted hy a three-day holiday, but at the East trading has been large owing to only one day heing observed, and also to the fact that private crop reports have been uniformly unfavorable. If tbese advices are born out by the Governmeut monthly report, due on July 10th, it is thought stronger markets at home and abroad will result. In this city there is a very pronounced bear sentiment among operators, which makes it difficult to trade owing to the bulls having the courage of tbeir convictions.

Tbe closing prices per bushel at Chicago and San Francisco, per cental, were as follows:

	Chicago July.	Chicago Sept.	San Francisco Dec.	San Francisco Seller '96
Thursday	55½	56⅝	97⅞	93½
Friday	54⅞	56⅛	98	....
Saturday*	....	....	....	....
Monday	54⅞	55⅞	*....	....
Tuesday	55¼	56⅜	*....	....

*Holiday.

CROP ADVICES.—In this State all advices point to a crop of over 950,000 tons, witb tbe grade averaging bcttcr than had been expected. From Oregon and Washington our advices indicate an outturn equal to last year's. The Eastern reports are less favorable. It is now conceded that the yield will fall below last year's by from 25,000,000 to 40,000,000 bushels, while some think it will not go above that of 1893. The official estimates of the crop were: 1895, 467,105,000 bushels; 1894, 460,267,000 bushcls; 1893, 396,-132,000 bushels. From Europe our advicces are essentially unchanged. France will require to import about 15,000,000 busbels of wbeat. Owing to the large area of land brought under cultivation in Russia crop advices from that country are closely watcbed. Tbe last official advices from there were: There had been drought in the middle black soil countries and in the southwestern departments. Tbe spring crops in black soil districts promise an average. In Bessarabia both spring and winter crops are bad. Rain has fallen in the districts bordering the Azof and tbe lower reacbes of the Don. In northern Caucasus there is an improved condition in the spring crops.

CHARTERS.—There is notbing new to report. Rates remain at last quotations.

The tonnage situation compares as follows in registered tons:

	1896.	1895.
In port engaged	48,456	39,646
In port disengaged	39,966	.....
On the way	260,855	353,154
Totals	349,277	392,800

BARLEY.—Tbe bolidays interrupted business, making quotations largely nominal. Harvesting is well advanced, and with expected few receipts buyers will not anticipate their wants.

The closing prices for No. 1 feed at San Francisco were as follows:

	Dec.
Thursday	68⅛
Friday	68¼
Saturday*	....
Monday*	....
Tuesday*	....

*Holiday.

For spot the market is quoted as follows: Feed, 62½@70c; brewing, 75@80c.

OATS.—The demand is slow. The consumption has fallen off fully 25 per cent. Receipts of new will soon bc a factor.

The market is quoted firm at the following prices: Milling, 85 @ 92½c; feed, 75 @92½c; gray, 80@85c; Surprise, 92½c@$1.02½.

CORN.—The markct is essentially unchanged since our last issue. The demand is fair, while the stock and that to arrive from the East are ample for all requirements.

Our market is quoted as follows: Large yellow, 90@95c; small round, 96½c@$1,00; white, 77½@82½c.

FEEDSTUFF.—There is a continued good demand, but owing to fair offerings tbe market holds steady.

Quotations are as follows: Bran, $15.00@16.50 per ton; middlings, $17.50@20 per ton; roll barley, $15.00@16.00 per ton; feed corn, $20@21 ton; oilcake meal, $21@22 per ton.

HAY.—The market is well supplied. It is stated tbat there has been morc cut this year than had been estimatcd. Large feeders are reported negotiating for the bulk of their requirements.

We quote as follows: Wheat, $7.50@10 per ton; oat, $6@8; wheat and oat, $7@9; barley, $5@7.50; alfalfa, $6@6.50; clovcr, $6@8; stock, $6@7. Old hay: Wheat and oat, $7@11.50; compressed wheat, $8@10.

STRAW.—Market is quoted at 20@40c per bale.

BEANS.—The market is sluggish and in buyers' favor. Crop advices are to thc effect that it promises to bc a fair outturn.

The market is quoted as follows for consignment lots: Bayos, 90@97½c; Small Whites, $1.15@1.25; Pea, $1.20@1.40; Large Whites, 90c@$1.05; Pink, 75@85c; Reds, $1.10@1.25; Limas, $2.35@2.60; Butter, $1.20 @1.55.

POTATOES.—Fewer receipts and only a fair demand cause a lower market.

The market is quoted as follows: Early Rose, 60@75c in sacks; 75@90c in boxes; Garnet Chiles, 75@90c in sacks; Burbanks, $1@1.25 in boxes.

ONIONS.—Dealers quote Silvcrskins at 35@50c per 100 lbs. and Reds at 15@25c.

VEGETABLES. — The market continues to he liberally supplied with seasonable varieties.

The market is quoted as follows: Asparagus, 50c@$2.25 per box; rhubarb, 25@50c per box; green peas, 50c@$1 per sack for common, $1.25@1.50 for sweet; string beans, 1@4c per lb.; green pepper, 8@12½c per lb; summer squash, 25@50c per box; tomatoes, $1.50@2.50 per box; cucumbers, 50c@$2.00 per box; cabbage, 40@50c per 100; garlic, 2@2½c per lb; green corn, 50c@$1 per sack; Alameda, $1.50@2 per crate; egg plant, 8@ 12½c per lb.

BUTTER.—Receipts continue ample while the demand is largely for daily requirements. Dealers say that concessions are necessary to induce buying.

The market is quoted as follows: Creamery, 14@15c; dairy, 11@13½c.

CHEESE—Tbe market is weak.

The market is quoted as follows according to quality, at 5 @ 6½c for new, and 7@8c for Young America; cream cheddar, 8½@9c.

EGGS.—The market is weak and heavy under liberal supplies and a falling off in consumption owing to increasing receipts of fruits.

The markct is quoted as follows: Store, 10@11c; Oregon, 10@11c; Eastern, 9@12c; ranch, 12@14c; duck, 12@13c.

POULTRY.—Receipts and demands havc bcen about even.

Live Turkeys, gobblers, per pound	16	@	17
" " hens	14	@	16
Dressed Turkeys	..	@	..
Roosters, old, per dozen	4 00	@	4 50
" young	5 00	@	7 50
Broilers	2 00	@	4 00
Fryers	4 00	@	5 00
Hens	3 50	@	5 00
Ducks	2 50	@	4 50
Geese, per pair	75	@	1 00
Pigeons, per doz	1 25	@	1 50

HOPS.—Notbing new to report since last week's rcview. Quotations for new crop contract are about the samc as given last week. A New York exchange reports that market as follows: "Regarding the market for 1895 crop and older bops, there is notbing new to report. Business is confined mostly to ratber small sales to bome brewers, and the prices accepted are in line witb quotations tbat have ruled for some time past. Dealers are making only moderate purchases here or in the interior markets, and comparatively few samples of really desirable hops are being shown at the moment. Export business is almost at a standstill. Tbe spot supply of State hops is rather ligbt, but tbere appears to be an abundance of Pacifics, some lines of wbich were offered on tbe basis of 4c cash for medium quality. Cable advices reported improvement in tbe condition of tbe growing crop of England."

WOOL.—There seems to be more inquiry with the more desirable grades placed at a sligbt advance over quotations.

We quote: San Joaquin and southern coast, 6 months' growtb, 4@6c; San Joaquin, foot-bill, good to choice, 7@9c; San Joaquin, year's growth, 4½@7c; Nevada, 6@9½c; Oregon, Valley, 8@11c; Mendocino and Humboldt, 10@12c.

MEAT MARKET.—In symptby witb an advance in hams and bacon, hogs are strong at an advance. Outside of this there are no changes in the market.

Wholesale rates for dressed stock from slaughterers are as follows:

Beef—First quality, 5@5½c; second quality, 4½@4¾c; third quality, 3½@4c.

Veal—Large, 4@5c; small, 5@6c.

Mutton—Wethers, 5@5½c; ewe, 4@4½c.

Lamb—Spring, 5@5½c.

Pork—Live hogs, 3⅜@3½c for large, 3⅝@ 3¾c for small.

Dried Fruit Market.

SAN FRANCISCO, July 8, 1896.

New York mail advices to July 3d are as follows:

The demand for most descriptions of dried fruits continues very good, notwithstanding the increasing competition of green stock. Most of the orders come from out of town, and, although they are for small lots, a considerable quantity in the aggregate is being moved daily. The demand for loose California raisins does not appear to be as good as it was a few days since, present prices seeming to be above buyers' views. Howevcr, stocks of goods that fully come up to the standard are limited, and tbe tone of the market is firm, with an upward tendency. London layers are attracting attention, but we bave heard of no important sales. Most holders now demand $1.00. For imported Sultana raisins there is a good consuming demand. The recent arrival of Valencia raisins has been put into store, tbe prices asked seeming to be above the ideas of buyers. Malaga raisins are dull and nominal. New apricots are beginning to attract attention, though buyers limit their purchases to small lots. The sales reported yesterday at 8¼c. were, it is understood, of stock of standard quality in bags. New choice apricots, which are expected here about July 10tb, are selling at 8¾@9c. delivered in New York, as to the size of tbe order. The latter are in 50-lb boxes, unfaced. Peaches are scarce and very firm, but we hear of no sales of any consequence. The demand for prunes continues. It runs chiefly on the large sizes, which are scarce. Prices are much firmer, but not quotably higher. There is little doing in citron or peel, but prices are steady. Dates and figs remain dull and somewhat nominal. Tbere is only a small demand for nuts to supply current requirements. Brazils are firmer, but not bigher as yet. Filberts are steady, but no important transactions bave occurred so far as can be learned.

The market is practically bare of old stock of all varieties, which causes trading to be confined to jobhing lots for which quotations would he misleading. Commission merchants report very little inquiry for new season fruits. Tbey state tbat even for apricots there in very little inquiry and that it would he difficult to place any sized parcel at over 7 cents if that f. o. h. Some quotc 6½ cents f. o. b. as the basis. There is no inquiry for peaches, pears or pruues. Dealers at the East seem to be waiting for political and trade developments.

Fresh Fruit.

TREE FRUITS.—Receipts of cherries are very light, hardly enough to quote. The receipts of apricots are free, with canners buying, which keeps the market fairly active. The receipts of peaches are only fair, but it is expected to steadily increase. The same remarks apply to pears, apples, plums and prunes.

Tbe market is quoted as follows: Apricots, 20@50c in baskets, 30@65c in boxes; peaches, 45@80c in boxes, 40@75c in haskets; plums, 25@55c in boxes; apples, small boxes, 25@40c, large boxes, 45@90c; pears, 25@55c a box, Bartlets, 90c@$1; figs, singlc layers, 25@35c, double layers, 40@60c. Canners quote in bulk on the following basis: Apricots, $17@20 per ton; peaches, Crawford, $15@20, cling $20@ 25; pears, $15@20; plums, $17@25. Poorer grades less and extra choice more.

Berry receipts continue in excess of the demand, which causes a weak market.

Tbe market is quoted as follows: Strawberries, per chcst, $2.50@3.50 for Longworth, $1.50@2.50 for large; raspherries, $2@4 per chest; currants, $2@4 per chest; blackberries, $1.50@3 per chest.

—Cattle are reported dying of starvation on the ranges of Arizona. Tbe greatest loss is in Verde county, eastward from Flagstaff, and in the Skull Valley ranges, where the animals are perisbing by thousands, the mesa being entirely bare.

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Patrons of Husbandry.

From the State Lecturer.

INDUSTRIAL EDUCATION IN TULARE GRANGE.

This department is indebted to Brother John Tuohy, Lecturer of Tulare Grange, for a full and interesting account of a meeting of that Grange and the discussion of the theme placed at the top of these lines.

In addition to remarks of the members on the subject, papers were read from Brother E. F. Adams, chairman of the Committee on Education of the State Grange, written for the Agricultural Department of the San Francisco *Chronicle*, of which he is the editor.

Mrs. C. J. Berry, of Tulare, also contributed a paper, presenting the subject in a clear and forcible light. She said in part:

"Reforming school methods is a task of such herculean proportions that one approaches the subject with hesitation, but that the object of schools is that 'education shall educate' goes without saying. Impressions formed from long experience as a teacher lead me to the belief that we must begin any system of 'industrial education' with the seven-year-olds, and, with a few boxes of various kinds of soils and some seeds, show them how to plant them and encourage them in watching their growth to see whether sand or fine, rich soil is best for them, etc., etc.

"The nine-year-olds could be given practical lessons, studying the weather from day to dry to note its effect upon vegetable life around them."

References along the lines of general agricultural, horticultural and floricultural topics were made when the essayist made the following pertinent observation:

"One important matter should not be overlooked; the press must be censured for its ridicule of the farmer and his boys, for from that important educator in our midst the town boy takes his cue and imagines his stylish clothes and city ways especially entitle him to jeer 'hayseeds,' as they derisively call the country boys.

"A great many of our prominent men began life on a farm, and when you concentrate their names under one heading you find a pretty fair list of 'hayseeds,' and the list can be indefinitely lengthened to include a long line of American statesmen, poets, artists, warriors and scientists."

By request the writer submitted a few thoughts on the subject in writing which were read.

So much of the programme was rendered in fulfillment of a previously arranged plan for the meeting.

During the interim the report of the committee on ways and means of the Board of Regents of the University of California which had been sent to the Grange for consideration, received due attention and a committee was appointed to formulate the views of the Grange in accordance with the sense as expressed, the same to be sent to the committee of the University. Following is the report of the committee:

HALL OF TULARE GRANGE, No. 198, P. OF H., CAL., VISALIA, June 20th, 1896.

This Grange has received and considered in regular session this day, the report of the committee of ways and means of the Board of Regents of the University of California. As requested to do, by the committee of ways and means, we have given the subjects mentioned in the report, the deficiency of $15,000 in this year's expenses of the University of California and the desirability of further aiding the college of agriculture, now simply an adjunct to the University of California, our best consideration.

In doing this it is proposed, within the next six months, to hold in different portions of the State fifty meetings of tillers of the soil to be addressed by the faculty of the University of California. We have been led to the following conclusions:

We believe the University of California as an institution of higher classical education, and for training and instruction in what is generally understood as the "professions" an exceptionally good institution of learning. As citizens of California we feel a pride in it.

We believe the Board of Regents are educated, broad-minded men; that they have brought good attention and marked ability to the duties of their office and, as they should do, take a pride in the University of California, its work and its success.

We believe they understand the financial condition of the University and how to provide therefore better than we of Tulare Grange can do. On this subject we trust to the sense of right in the performance of their duties by the regents. We make no suggestions.

With the recommendation of the committee of ways and means, that the faculty of the University of California hold public meetings within the next six months with the tillers of soil, we will say: If these meetings with the tillers of the soil are to be for the purpose of eliciting from the agricultural community their wishes and desire for instruction in agriculture and of their views and desires as to the work and management of the college of agriculture, we are in touch with it, and we are hopeful of good results; but if it is to be a canvass for higher and more taxation to support the classical university at Berkeley, from our present point of view we do not believe in it. We do not believe it will be productive of good results. The best results, however, we believe will be obtained in promoting agricultural education by a removal of the college of agriculture from Berkeley, from the baneful influence of a classical university.

We admit the College of Agriculture in the work it is doing is good work, but it is not graduating agriculturists, and this we believe should be its mission. Judged by the amount appropriated by the general government for its support, by the many years it has been in existence, by the very few students it has instructed or graduated, it is a positive failure and an impressive object lesson in the folly of combining a college of agriculture with a classical university. It seems to us no school of agriculture will fill its mission, unless, in addition to the scientific course it also gives thorough practical instruction in the calling. There appears to be surrounding a classical university an atmosphere inimical to and holding in contempt the calling of agriculture, having such force and power over the young man or woman who desires to study, practically, agriculture, as it is unreasonable to expect him or her to overcome.

We believe this is the experience of every State where the College of Agriculture has been combined with the classical university, and we believe it is, without exception, the rule also that where the College of Agriculture has been removed, the farther the better, from university influences in practical as well as theoretical instruction, in the number of students it instructs and graduates, it is a success, a benefit and a pride to the State where it exists.

We would recommend, therefore, that the College of Agriculture and Mechanic Arts be removed from Berkeley. That it be established in some good, central agricultural and manufacturing town, such as Los Angeles, San Jose, Stockton or Sacramento, where we hesitate not to say it will be the College of Agriculture and Mechanic Arts contemplated by the law providing for its establishment and maintenance.

We believe the calling of agriculture and the theoretical and practical work therein to be as interesting a study as that of any profession.

We believe where students therein are surrounded by instructors and students of like dispositions and desire, they, too, will be imbued with a laudable pride and interest in their professions; and we believe this is the way and the only conditions under which scientific and industrial agricultural education can be successfully attained.

We ask our sister Granges throughout California to give this subject careful consideration and express their views, and we earnestly hope some members of the Board of Regents will take action towards removing the College of Agriculture from Berkeley; for it will be done ultimately.

Much space is devoted to the foregoing subject, but as it is the question of all others now prominently before the agriculturists of our State, as well as before the Patrons of Husbandry as an organization, nothing more appropriate to the time could be given.

San Jose Grange has the university matter under consideration, and doubtless others we know not of, and all are awaiting conclusions that should be made through the public press, and may be made through this department if thought advisable.

THE NATIONAL GRANGE QUARTEREY BULLETIN.

The above publication has just been received from the office of Brother Alpha Messer, Worthy Lecturer of the National Grange. The budget for this week's paper being made up, a review of the Bulletin must be deferred until later. The State Lecturer having been favored with a number of extra copies will distribute them as far as they may go to subordinate Lecturers, who, as will be seen, are again requested to report proceedings to the State Lecturer. The work of Brother Messer is commendable and well calculated to bring out Grange news.

FLOATING PARAGRAPHS.

We generally suffer remorse only when we are found out.

He that swears tells us that his bare word is not to be credited.

The little that has been done to secure unanimity of thought among farmers in discussing questions of mutual interest is already bearing abundant fruit and thus far there seems to be but little difference of opinion in regard to the question discussed.

We count upon the uncertain; but the inevitable surprises us.

When a small man has done anything he immediately tells the public what he has accomplished.

Nothing is more amiable than true modesty, and nothing more contemptible than that which is false.

The perfection of conversation is not to play a regular sonata, but, like the Æolian harp, to wait the inspiration of the passing breeze.

In the days of Midas, whatever the man touched turned into gold; things are different now—touch a man with gold and he turns into anything.

Thought and sympathy are often more valuable than anything money can procure. Both need continual circulation to keep them wholesome and strong.

The sublimest thing in the universe, except its Creator, is a human will governing itself by a law higher than its own desire.

Genius seldom runs in straight lines. Few great men or great women have great sons and great daughters. Seldom all the children of any family are talented. While we can but admire native ability, we have a still greater admiration for that child of a great man who, being endowed with few gifts, will accept his natural position in life and do small work well.—*Farmer's Friend.*

It is not at all strange to hear an intelligent minister say that some of the members of his church will even stay from prayer meeting to attend a political caucus. I would have them not only leave their prayer meetings, but any other meetings and get out these "watch towers" of Zion and stand there day and night to see that God-fearing men are placed in power.—*Correspondent Grange Visitor.*

"IT'S BUT A STEP.—Poet (to farmer) See what a beautiful prospect is unfolded in yonder billowy fields, and hark! the voice of the plowman!

Farmer—Yes, he's been cussing that mule since daylight, and it's one of them German mules that used to pull a beer wagon, so he can't understand a word o' it.—*American Planter.*

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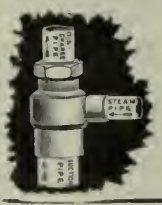

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OLIVE OIL is now used in many ways at one time never thought of. Besides being more largely used medicinally, it enters into various processes of cooking much more extensively than it did. It is well known that eggs fried in good olive oil are much better flavored than when any kind of fat has been used. In massage, bathing, and for numerous other purposes, the use of this most natural valuable food is greatly extending. The value of good olive oil is beginning to be much more generally recognized throughout the world than it formerly was. Eminent authorities have experimented with it and found it a potent agent for any defects of the excretory ducts, especially the skin. Eczema has rapidly disappeared upon a discontinuance of starch foods and a substitution of a diet of fresh and dried fruits, milk, eggs and olive oil. Its beneficial effects when taken in conjunction with a fruit diet have frequently been remarked upon the hair, nails and scalp, quickly clearing the latter of scurf and supplying to the sebaceous glands the oily substance which they secrete when in a healthy condition, and the absence of which is the cause of debility of the hair, frequently ending in baldness. It has long been observed that those who look upon olive oil as a common article of food, and take it as such, are generally healthier and in better condition than those who do not. Its therapeutic and prophylactic properties are now well know to medical men. Oil is destructive to certain forms of micro-organic life, and it is reasonable to suppose that they can best be eradicated from the system by its internal use. The use of oil not only does this, but it restores to the worn-out or diseased tissue just those elements of repair that its reconstruction demands.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING JUNE 23, 1896.

562,688.—FRUIT PICKER, ETC.—Baisley & Decker, Los Angeles, Cal.
562,510.—OAR—E. B. Cleaveland, Snohomish, Wash.
562,459.—WASHING UTENSIL—Mary M. Davis, South Pasadena, Cal.
562,716.—STEP LADDER—C. H. Dyar, Ontario, Cal.
562,784.—LEGGING—C. Fisher, S. F.
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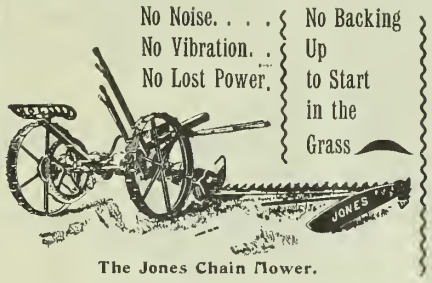

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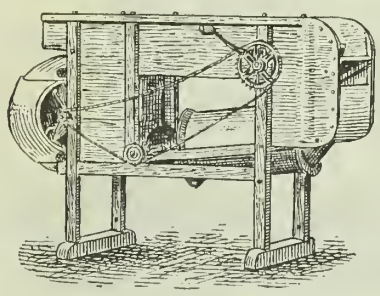

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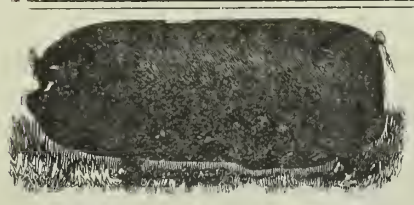

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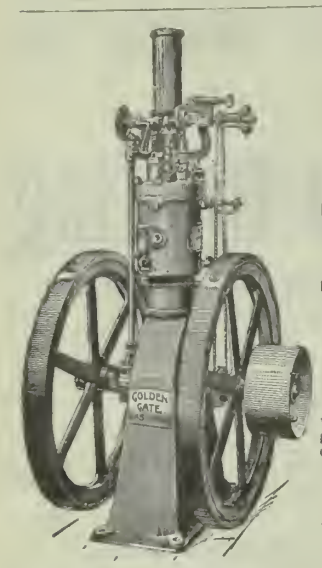

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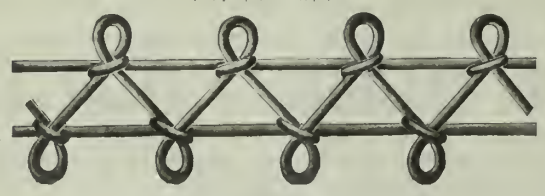

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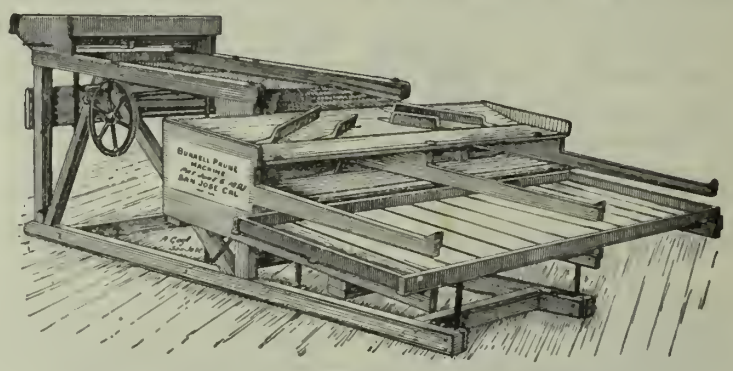

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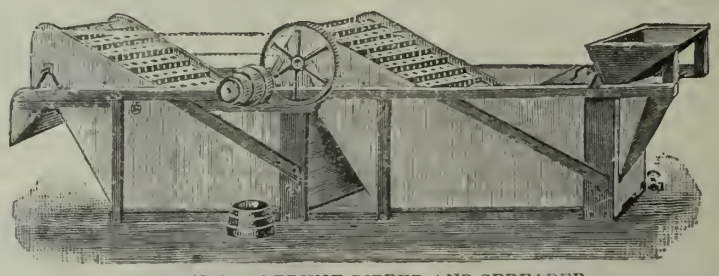

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THE PACIFIC RURAL PRESS
AND CALIFORNIA FRUIT BULLETIN.

Vol. LII. No. 3. SAN FRANCISCO, SATURDAY, JULY 18, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.

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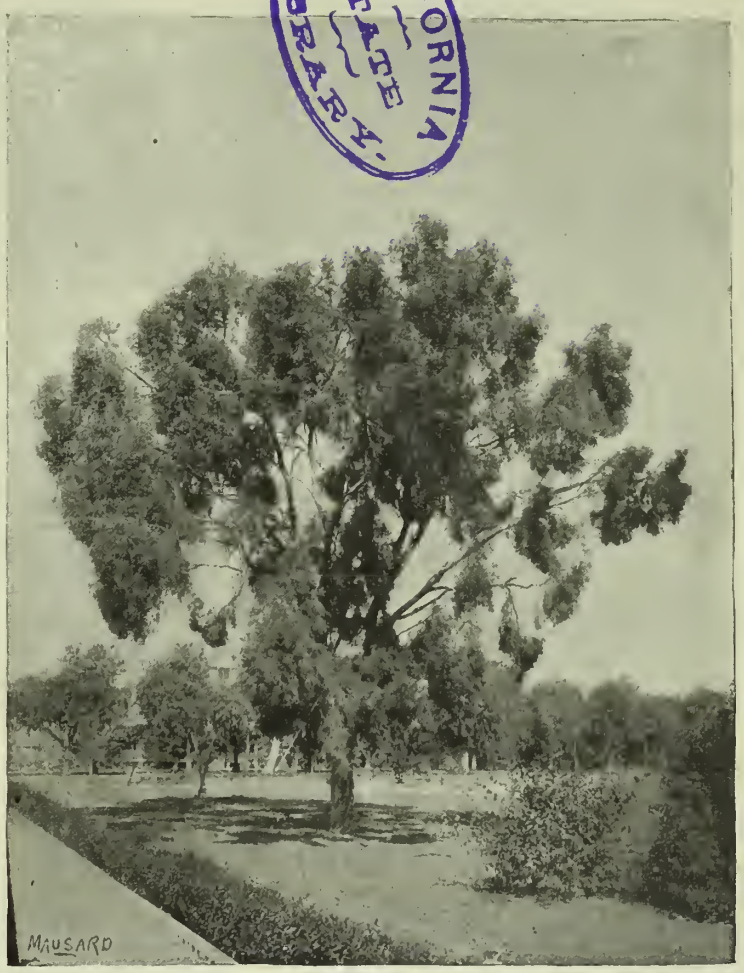
CALIFORNIA STATE LIBRARY.

Eucalyptus.

This single word is the title of an illustrated book by Mr. Abbot Kinney of Lamanda Park, Los Angeles county, just published. It is a monograph on the eucalyptus family of trees, with popular descriptions of the prominent species and varieties, their various uses and adaptations, their medicinal and other products, the botany of the genus, with plates showing distinctive appearances of a number of the species. For about a score of years Mr. Kinney has been an ardent student of tree growths in California, and to this long period of local observation he brought impressions gained by travel in many lands. He has been for many years our most prominent writer on forestry, especially in its economic aspects. He was a member of the first Forestry Commission of California, and afterwards served a long term as its chairman. All these facts, taken in connection with his enthusiastic devotion to trees and their interests, singularly fit Mr. Kinney to prepare a monograph upon the eucalypts in California, and the work will not only be of very great value in disseminating important information about them in this State but it will render similar service in all semi-tropical regions of the earth. Such service is especially timely because, thus far, eucalyptus lore has been held fast in erudite botanical works or set forth in colonial reports which are not widely available. Mr. Kinney's work has upwards of 300 pages, large octavo, and 28 full-page plates from photographs of California-grown specimens.

Through the courtesy of the author we are able to lay before the readers of the PRESS some portions of his work. We select for this issue an engraving of *Eucalyptus amygdalina*, which is one of the hardy species and is adapted to some regions of California where more common species like the *globulus* suffers from frost. Mr. Kinney notes that while the *amygdalina* is the tallest of the Australian trees and the tallest tree in the world, in *amygdalinas* in southern California have in no case equaled in size the common blue gum, nor does their manner of growth give promise that they ever will. The tallest trees seem to be of a variety known as *regnans*, while the California trees are of two other varieties of the species, viz.: *angustifolia* and *linearis*. The *regnans* has a broader leaf and is otherwise distinguished. Our engraving is of the variety *angustifolia*, growing upon the place of Mrs. Jean C. Carr of Pasadena, Los Angeles county. One picture shows its general form of growth and the other its peculiar narrow leaves and small bloom and seed vessels. The leaves are of dark, dull green. Mr. Kinney mentions two other varietal forms besides the trees which we have named, so that one can get quite a collection of eucalyptus varieties without going beyond a single species. The *angustifolia* has stood severe frosts at the Chico Forestry Station, and does well there. Good specimens are to be seen at Ellwood Cooper's place near Santa Barbara, and at the Forestry Station near Santa Monica; also upon the University grounds in Berkeley.



EUCALYPTUS AMYGDALINA AT PASADENA.

EUCALYPTUS AMYGDALINA, VARIETY ANGUSTIFOLIA.

Some idea of the difficulties which a careful writer encounters when endeavoring to expound this matter of eucalyptus species and varieties can be had from the fact that in addition to the five varieties indicated above there are further modifications produced by climate. There is thought by Von Mueller to be an Alpine form of *Eucalyptus amygdalina* because they happen to have had survive on the estate of the Duke of Devonshire in England, a tree enduring 7°, and there are four species which the Kew authorities consider safe at 10°. The selection of these hardier varieties will give the eucalyptus a much wider range than it now has in California, and will also carry the genius into the southern States as well as farther north on the continent of Europe. The general reading of Mr. Kinney's treatise will render the important public service therefore of greatly increasing the eucalyptus area in the northern hemisphere. People who have been disappointed at seeing the common *globulus* killed as easily as an orange tree by frosts, which are counted heavy in California, might have found their groves unharmed if they had planted *amygdalina* or some other of the hardier eucalypts.

ACCORDING to the *Ojai* there is a very serious situation in the Ojai valley, due to the presence of the black scale. Says the *Ojai*: "Some radical method must be found to exterminate this pest. It is also clear that the *Rhizobius* is not equal to the task. When the ladybird was introduced into the valley it was proclaimed that we had secured an ally which, alone and single-handed, would speedily remove the pest from our orchards. For a time the ladybird did her work with satisfaction; but she has gone off duty, with no immediate prospect of going on again. We can account for this state of affairs only on the theory that the ladybirds have a game law among themselves and this is the 'close' season. Perhaps their instinct teaches them that if they exterminate their favorite diet they shall forever after be forced to get along without it."

THE California Fruit Transportation Co. forwarded another consignment of fruit to London during the week. "It is our purpose," said Mr. Quigley," the Sacramento manager, the other day, "to push this matter of sending California fruit to London in the hope of creating a demand for it there that will make it a permanent and profitable business for our growers. It has been up-hill work for two seasons, but the difficulties at first encountered are being overcome. We have taken some severe risks, but have faith in the success of the enterprise."

ANOTHER carload of redwood has just been shipped from California to Nuremberg, Germany, for use in making leadpencils. The cedar forests of Europe, that formerly supplied wood for pencils, have been practically exhausted.

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ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, July 18, 1896.

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The Week.

The Weather.

It has been a week of unusual heat throughout California and the effect has been to hurry forward every sort of summer work. Orchards have ripened rapidly and in many instances ahead of expectations, and there has of course been a feverish rush in drying operations. Grain fields, too, have felt the heat, but nowhere, so far as we can learn, to their injury. Everywhere the yield of wheat and barley turns out better than was looked for. The worst effect of the protracted heat is to dry up the feed for stock. Following is the report of the U. S. Weather Service for the week:

The following data for the week ending 5 A. M. Wednesday, July 15, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	....	....	.11	.05	68	50
Red Bluff	....	....	.16	T	110	70
Sacramento	....	*	.04	T	*	64
San Francisco	.04	.04	.10	T	72	52
Fresno	....	....	....	T	112	70
San Luis Obispo	....	.04	....	*	100	50
Los Angeles	....	....	....	.01	92	60
San Diego	....	....	....	T	76	64
Yuma	T	T	T	.06	110	78

* Indicates no record.

Hot Weather Observations.

A Woodland *Democrat* man, who spent Saturday and Sunday last in the southwestern part of Yolo and northern part of Solano, writes as follows:

The present hot spell is causing the orchardists considerable expense. In the vicinity of Winters most of the fruit men are picking and drying their apricot crop. The warm weather is ripening this variety of fruit so fast that the orchardists are compelled to increase their force of help in order to properly prepare the fruit for the drying trays; consequently an additional outlay of money is necessary to save the crop. Thousands and thousands of trays of the yellow fruit can be seen on the ground in the Winters fruit belt and Pleasant Valley. It is not positively known whether or not the fruit will properly dry in the extreme heat, but so far no material injury has been noticed. There is some damage reported to the pear crop, caused by the hot weather drying the pears before they have sufficiently ripened to be picked, but this complaint does not seem to be general. A large number of people are at work in the fruit belt, and their camps present the scene of a lively little village. This is undoubtedly rather an agreeable way of spending the summer and at the same time enables them to earn considerable money.

A trip through Pleasant Valley at this time of the year is not very pleasant, especially when the temperature is as high as it is this year, but the worst of all is the dusty roads. There is a sharp contrast between these highways and those of Vaca Valley. The latter are sprinkled, thereby affording much pleasure to the sight-seer. The difference in the roads of the two valleys should receive the attention of the Yolo county supervisors, who might then feel like adding an additional ten cents to our road tax for sprinkling purposes, thus placing old Yolo in line with those progressive counties, which have learned that the amount spent for sprinkling roads brings greater returns than any other outlay of public funds.

Eastern Fresh Fruit Market.

The past week has been a time of heavy shipments of fresh fruits to the Eastern markets. On Saturday the total number of cars forwarded was 42, this being the maximum single day's shipment for the season this far. This week the forwardings are lighter, Tuesday's shipments aggregating only 12 carloads. Under heavy supplies the prices recently ruling in the Eastern markets are not fully maintained. In New York the market is, just now, especially low, due probably to a term of very hot weather. The following reports from New York and Chicago show the range of prices for Tuesday, the quotations for that day being the latest at hand as the RURAL goes to press:

NEW YORK, July 14.—Porter Brothers Company sold: Plums—Japan, $1 50@3 50 per half crate; Peach, 90c@$1 50; Ogon, 85c@$1 35, Quackenboss, $1 05.

Prunes—Tragedy, $1@1 70 per half crate; Simonl, $1 60.

Pears—Bartlett, 85c@$1 65 per box; 50@75c per half box.

Figs, 55c, $1 10@1 30 per box.

Apricots—Royal, 45c@$1 15 per half crate.

Peaches, 50c@$1 05 per box.

Apples, 60@70c per box.

There were 14 cars on the New York market to-day.

The Earl Fruit Company sold to-day: Prunes—Tragedy, 85c@$1 40 per half crate.

Plums—Peach, 55c@$1 15 per half crate; Royal Native, 55c@$1; Japan, 55@60c; Bradshaw, 35c@$1.

Pears—Bartlett, 70c@$1 25 per box.

Peaches—Hale's Early, bad order, 50@70c per box.

CHICAGO, July 14.—The Earl Fruit Company sold to-day: Prunes—Tragedy, $1 35@1 65 per half crate.

Plums—Burbank, $1 80 per half crate; Peach, $1 25; Royal Native, 85c; Mikado, soft, 40@85c.

Peaches—St. John, $1 10@1 25 per box: half crates, 85c@$1 20; Hale's Early, 45@65c per box.

Porter Brothers Company sold: Plums—Burbank, $1@1 80 per half crate; Peach, $1 30: other varieties, 70c@$1 05.

Prunes—Tragedy, $1.30@1.45 per half-crate.

Peaches—St. John, 70c@$1.20 per box, and 55@75c per half-box: other varieties, 20@70c per box.

Pears—Bartlett, 45c per half-box.

Good Prices for Raisins.

Raisin producers are taking very hopeful views of the market this year and for the first time in several seasons find themselves justified in assuming a stiff attitude. A Fresno dispatch of the 8th inst. says:

There has been a marked advance in raisins in the past few days. An offer was yesterday made for the crop of 160 acres at $50 per ton in the sweatbox. This is about twice as much as was realized last year. Other offers about as good are being made. Advices from the East give figures highly encouraging. The prediction is made in New York that prices will rule there which will make raisins worth $60 per ton in the sweatbox here. Since the committee of five appointed by the Chamber of Commerce and the Hundred Thousand Club gave up the effort to organize an association, buyers have entered the field and prices at once began to go up. Growers are disposed to hold to their raisins in the hope of further advance. The crop will be 1000 tons short of last year.

The Single Auction System.

The New York *Journal of Commerce* of the 3rd inst. has this to say about the single auction system as it is now in operation in New York City:

The California fruit sales under the single auction house system may now be said to have had a practical trial. The receipts to date have been a trifle heavier than during the corresponding period last season, about 100 carloads having arrived. All this fruit has come over the Erie Railroad, and has been sold on the Erie pier, No. 20 N. R., according to arrangements entered into by the different receivers here during the spring. The Erie has built a handsome auction room, in which the fruit is sold, Brown & Secomb selling for the Porter Bros. Co., Sgobel & Day, P. Ruhlman & Co. and C. Joralemon, while the E. L. Goodsell Co. sell the fruit of the Earl Fruit Co.

Inquiry was made yesterday regarding any changes that had taken place as a result of the operation of the single auction system. So far there has been no friction, and everything has, it is claimed, moved in a satisfactory manner. Prices, however, have not shown the improvement that was anticipated. Last year, it will be remembered, part of the fruit was sold on the Erie wharf and the balance on the West Shore wharf, and it was thought that with the sales competing prices suffered in consequence. Thus far this year, however, there has, it is claimed, been no improvement over last year's prices, and the opponents of the single auction plan claim that the concentration of the buyers has not had the promised effect of securing better prices.

Up to the present time eight or nine cars have been the most sold in one day, and it is claimed that the fruit belonging to the receiver at the end of the catalogue did not receive consideration from buyers equal to the consideration given the earlier offerings, as the buyers became restless, partly owing to the long catalogue. It is said that if the shippers would stop sending lots of say one, two, three and four packages it would be better for all concerned.

The season will continue until December, and the heavier offerings later may, of course, show more plainly the benefits of the single auction system.

An Appeal to Poultrymen.

Under date of 10th inst. Mr. J. A. Schofield of Hollister writes to the RURAL PRESS as follows: "The misunderstanding heretofore existing between the California State Poultry Association and the directors of the State Agricultural Society has been settled by mutual agreement, the directors of the Agricultural Society granting all reasonable demands of the Poultry Association. We desire to urge upon all poultrymen the propriety of taking advantage of the liberal action of the Agricultural Society and making the next poultry exhibit at the State Fair the finest in the history of the State, and thereby reflecting credit upon the management."

California Regains the Pacific Flour Trade.

For two or three years past, owing to a combination of circumstances, which have frequently been set forth through the RURAL PRESS, Oregon millers have been able to underbid the millers of California in the flour trade of China and Central America. The condition which enabled this to be done was only temporary and it appears already to have passed away. A letter from Stockton, dated 14th inst. (Tuesday) says:

The victory of the Oregon flour over the California product has been short-lived, as the bulk of the China trade is again setting toward this point. For the past month the local mills have been running day and night, and big orders from China and Central America continue to arrive. This morning an order for 2,000 tons for immediate delivery at San Francisco for reshipment on the first China steamer was received. Mill men say that while the Oregon flour is accepted in the cheaper trade, the best class of trade has found out the superiority of the California article, and it is steadily gaining back all of the ground which it lost when competition was first inaugurated at the North. The Central American trade is good, and several big orders for shipment next month remain to be filled. The heavy wheat crop will also give the millers an advantage this season. They are already receiving grain over the Valley road, and, while the farmer will get a stiff price, the saving in freights will give the local mills some ground to work upon in case they are called upon to meet further competition. The situation here is very encouraging to the miller and the producer, and the laborer will natnrally share in the return of better conditions.

An Oregon Treatment for Cherry Gum.

We recently published with comments a note from Gilbert Rayburn of Livermore on the gumming of cherry trees and the publication prompted J. W. Hauck of Jefferson, Or., to give his experience as follows:

After reading Mr. Rayburn's letter to the PACIFIC RURAL PRESS I will offer some advice which I think will greatly lessen "gummosis" of cherry trees if not entirely prevent it. We have to contend with this trouble over much in Oregon, especially on Royal Ana. I spray with 4 to 6 pounds of blue stone (or copper sulphate) to 50 gallons of water as soon as the leaves fall. Spray again in the spring with the same solution before the buds swell. Gum spots appearing on the cherry trees are cut out and washed with the above solution, also when you slit the bark take a sponge and wet with the solution and rub where the slit in bark has been made. The above, if not a cure, I think will greatly modify the exudation of the gum.

The Eastern Fruit Market.

Reviewing the situation at the beginning of the week, the Sacramento *Record-Union* says:

The fruit shippers of the city are well pleased with the prices received for recent consignments of pears, some of which brought in New York $2.04 a box. It is believed that from now until the end of the season good prices will prevail. Advices received by the Producers' Exchange from its Eastern agent state that the peach crop of New Jersey and Delaware will be unprecedentedly heavy, and that from 5,000,000 to 6,000,000 baskets will be marketed as against 2,000,000 last year. They are advised that the crop will be placed in the market about the 1st of August, and are cautioned against making extensive peach shipments after that time. Like advices have been received by other fruit shippers in the city, though a difference of opinion exists as to the effect the heavy crop will have on late varieties of California peaches. Mr. Hechtman of Porter Bros. thinks the competition will not injure California shipments to any great extent, owing to the fact that much of the crop will be handled by Eastern canneries. The Georgia crop will not exceed 350 carloads, and is already being put on the market. It, however, cuts no figure, and it is of a very inferior quality, both in size and flavor, owing to the extremely late and cold season.

Cattle Dying From Drought in Arizona.

Recent vague reports of distress in Arizona from want of water are directly confirmed by a correspondent writing on the 8th inst. to the San Bernardino *Sun*. We quote:

Never since the settlement of this Territory has there been such a drought. At Williams, a town of 1500 population, there is absolutely no water. The entire supply is hauled in Atlantic & Pacific cars from Crozier, 100 miles west. The precious fluid sells for 65 cents a barrel and is hard to get at that price. At Flagstaff, Wilcox and Winslow the situation is almost as bad. Streams are dry, wells are in the same condition, and the few storage reservoirs in that section were never filled during the past winter. All the cattle strong enough to stand the trip to the loading pens have been rounded up, sold to buyers from Kansas, Wyoming, Colorado, Dakota and Montana, and shipped out of the country. The carcasses of thousands of head of stock, too weak to be driven to the railroad, are strewn over the country, where they died from starvation and thirst. So numerous are these carcasses that the stench is very offensive to persons traveling through the section adjacent to Williams and Flagstaff. Many settlers have already been compelled to leave the section, and, unless rains soon come, the exodus must speedily become general.

Advance in the Price of Vineyard Products.

It is now evident that the wine product of California for 1896 is going to be short owing to the frosts of the spring, and it, of course, follows that prices are to be higher than last season. As a beginning, the California Wine Association announces an advance in wholesale prices of 2½ cents per gallon. Both dry and sweet varieties are included in the raise. These consist of claret, Zinfandel, hock, Reisling and Chas-

selas, and port, sherry and Angelica. Estimating that there are 10,000,000 gallons on hand, the advance will place $250,000 in the pockets of the holders. Ordinary claret has gone up from 25 to 27½ cents a gallon. Its price before the combinations in the trade were made was 11½ cents.

Should Save Their Papers.

Says the *Four Corners* of Wheatland: "Subscribers to the RURAL PRESS should save their papers and send for a binder which the publishers offer. The RURAL PRESS is not a paper of to-day only, but is composed of matter valuable and instructive at all times. A bound volume is an excellent library edition."

Stockton Warehousemen Disgusted.

And now comes a wail from Stockton to the effect that the grain schedule of the Valley Railroad favors Port Costa at the expense of the former port. The difference between the rate from valley points to Stockton and the through rate to Port Costa is 50 cents per ton, while the rate by steamer and barge by the old line from Stockton to Port Costa, according to the rate list last issued by the California Navigation and Improvement Company, is 60 cents a ton. In discussing the matter this afternoon, M. P. Stein, representative of the Miller warehouse, said he thought the Valley road's new schedule would have a tendency to cause more grain to go direct to Port Costa, thus cutting into Stockton's warehouse business.

Useless and Mischeivous Dickering.

The utter folly of attempting to do any business in the Eastern markets with dried fruits in advance of the season is illustrated by the following letter written by a well-known Chicago merchant to Mr. Hersey of San Jose, manager of the California Dried Fruit Agency. The letter is as follows:

CHICAGO, July 2, 1896.

R. W. Hersey, San Jose, Cal.—DEAR SIR: In conversation to-day with one of our large buyers, he told the writer he had been solicited to make an offer on prunes for October shipment, and that he had offered 2 cents f. o. b. for ten cars of four sizes, and would offer that for more. The only item of especial interest to you in this gossip is, that he stipulated in making the offer that the quality and gradings should be equal to yours.

It is unfortunate, perhaps, that this sort of dickering should be indulged in at the present time, but "the boys" have nothing else to do. Yours truly, W. S. KNIGHT & Co.

S. F. Fruit Exchange Election.

The annual election of the San Francisco Fruit Exchange occurred on Wednesday of the current week. There was no competition for honors, there being but one ticket which was elected, as follows: President, Herman Bendel; vice-president, J. L. Wilson; treasurer, Abe Rosenberg; directors—D. E. Allison, H. Bendel, P. D. Code, W. A. Curtis of Sacramento, Frank Dalton, A. G. Freeman, C. C. Kinsey, Abe Rosenberg and J. L. Wilson. The new Board unanimously re-elected as secretary of the Exchange Mr. T. S. Taylor, who has ably filled that office since the organization of the Exchange. The annual banquet of the Exchangers occurred on Tuesday evening at the Occidental hotel and proved to be a great occasion. The reputation of the fruit trade as first-class "talkers" was fully maintained.

Pith of the Week's News.

SIX DEATHS from heat during the past week are reported from the Mohave desert.

BARON HIRSCH'S WIDOW has donated £4,000,000 ($20,000,000) to promote the emigration of Russian Jews to Argentina.

THE story of the recent earthquake in Japan grows in horror. The latest reports put the number of killed at 50,000.

NO VISITING statesman in recent years has been received in Europe with such honors as have been accorded to Li Hung Chang. He will return home *via* the United States.

AT Logan, Iowa, on the night of the 11th, two Chicago and Northwestern trains came together at full speed. Thirty-five persons were killed and many others seriously injured.

AT the funeral of Harriet Beecher Stowe there were no mourning emblems. As at the funeral of her brother, Henry Ward Beecher, the church was decorated with flowers as for a festival.

THE Pacific mail steamship Colombia went ashore on Pigeon Point, thirty-eight miles south of San Francisco, on Tuesday night in a fog. The passengers were saved, but the ship will probably be a total loss.

WHILE driving through the streets of Paris in official state on Tuesday, the President of France was twice fired upon by a crank. The man was clearly irresponsible and the incident has no political significance.

AT Oleta, on Tuesday night, Frank French, while drunk, attempted to enter the store of Sing Wah, a Chinese merchant. He kicked in the door and was about to make his way in when the Chinaman shot him dead.

HAVING been importuned to be a candidate for the Governorship of Missouri, Mr. Bland—"Silver Dick"—has declined, saying that, if it is desired by his people, he will serve in Congress; otherwise, he will remain in private life.

THE properties of the Oregon Railway & Navigation Co. were sold last week for $9,637,250. The "capitalization" upon which this company has long been exacting dividends aggregated about $45,000,000. Rates ought to be lower from this time forth.

JACOB H. NEFF has resigned as a member of the State Board of Prison Directors on account of ill health and lack of time. It is generally believed that Gov. Budd will appoint Robert T. Devlin of Sacramento to the vacant place. Devlin was once before a prison director.

MR. MCKINLEY has had a very quiet week at home, varied by an on-Sunday trip to Cleveland, where he was the guest of Mr. M. A. Hanna. He continues to receive visitations from representatives from all parts of the country, but in responding to their congratulations he has little to say about political matters. His formal letter of acceptance has not yet been issued. If he has any plans for the campaign, they are not known.

PORFIRO DIAZ was on Monday re-elected for the fourth or fifth time President of the "United States of Mexico." Under the Mexican Constitution it is not allowed that the President shall succeed himself, but in the Spanish republics, so-called, trifles of this sort are not allowed to interfere with the personal plans of the men who command military power. While nominally the President of Mexico, Diaz is in reality a dictator, with unlimited powers.

IN the confusion of political principles and parties many strange things are happening. For example, A. T. Hatch, the fruit man, so long an advocate of protection, and who during the past three years has missed no chance, public or private, to laud protection and run down free trade, is now openly advocating a free trader for the Presidency. He considers the financial question as all-important, and bases his political change of heart on his faith in the silver cause.

SPAIN is finding the Cuban war a tremendous strain upon her resources. In the seventeen months since the revolt began in has cost the lives of 60,000 men and $200,000,000 in money. Some of the Spanish statesmen are now urging the Government to grant reforms in Cuba, even while the revolt is yet active, under the belief that thus the war might be brought to an end. The belief it is believed is groundless. Any offer of reforms would be rejected by the insurgents. The Cubans will retire from the field only when they have won independence.

THERE has been an effort on the part of a certain sensational newspaper to make out a scandal at the Whittier Reform School, the charge being that several of the inmates had been cruelly whipped. It appears upon investigation that the story was practically a fabrication; that the punishments inflicted were deserved and not brutal or unnecessarily severe. Those who manage such establishment as that at Whittier have to deal with some pretty tough cases and it is not surprising that moral suasion has oftentimes to be reinforced with something more material and practical.

THE Democratic State Central Committee has been organized as follows: Gavin McNab, James D. Phelan, A. A. Watkins, Eugene Deuprey, W. P. Sullivan, Max Popper, Marion Biggs, Jr., San Francisco; Thomas Garrard, Angels, Calaveras county; A. B. Paris, San Bernardino; Harry Patton, Los Angeles; J. K. Mahan, Sutter; John P. Haynes, Eureka; Dr. C. F. Nutting, Yreka; W. W. Foote, R. M. Fitzgerald, Oakland; Isidore Alexander, Sacramento; D. A. Ostrom, Yuba; John Markley, Solano; Fred Cox, Sacramento; J. A. Shepherd, Lathrop.

CIVIL ENGINEERS George Davidson, George H. Mendell, W. C. Alberger and E. C. Grunsky have submitted to "Reclamation District 108" a plain to drain the great Colusa basin, and so redeem something like 70,000 acres of fine land, which now lies swampy and valueless. The project calls for the construction of a canal from Long bridge to Knight's Landing, which will carry off 12,000 cubic feet of water a second, and be of the largest capacity of any canal in the State. It will be thirty miles long, a quarter of a mile wide, 7 feet deep, and, when built, will assume the proportions of a great river. Exclusive of rights of way and land purchases, the outlay is estimated by the engineers at $550,000.

WM. J. BRYAN of Nebraska, the Democratic nominee for the Presidency, is the youngest man ever named for that office. He was born in Illinois in 1860, moved to Nebraska in 1887, and has served two terms in Congress from the Lincoln district. His whole reputation rests upon his brilliant gifts as an orator, exercised persistently for the past nine years in the cause of free silver, to which he is devoted heart and soul. In his own party he has not always been in favor because of his pronounced Populistic leanings. Nothing in the history of American politics is more dramatic than the circumstances of his nomination. On Thursday his name was at the end of a long list of candidates—so far in the rear that he was scarcely considered a Presidential possibility. Called, by accident, to address the convention at a moment of waiting for a committee report, he so electrified the whole body of delegates that no other man was "in it" from that hour forth. Hardly in the world's record of oratory has so high a reward immediately followed a mere forensic display. The Vice-Presidential nominee—Arthur Sewell of Maine—is a shipowner of high character, very rich and very much respected by the people of Maine. He has always been a Democrat and a free trader, and for several years has been a pronounced free silver man.

THE political situation in the United States is more mixed and uncertain than at any time since the war. The Republican party has declared for a high protective tariff and for "the existing gold standard" until it can be superceded by international bimetallism. It has made the special apostle of protection its presidential candidate and will attempt to make the tariff the leading issue of the campaign. Its candidate for vice-president is an eastern man practically unknown in the political world, chosen because of his association with large financial and manufacturing interests. In thus adopting a gold policy, the party has lost the support of a body of western silver men, but how large or to what effect it remains to be seen. On the other hand, the Democratic party has sought to subordinate all other issues than that of silver, and has named as its presidential candidate a western man whose whole celebrity rests upon his activity in the free silver agitation of the last half dozen years. In naming a candidate for the vice-presidency it has sought to conciliate eastern sentiment by selecting an eastern man of wealth and of large financial connections. So far as the present campaign is concerned, this course has hopelessly divided the Democratic strength. That section of the Democratic party which lives east of the Alleghany mountains has served notice that it will not accept the free silver policy of the Chicago convention and that it will not support its candidates. It is clear that the Democratic free-silver party will have its way in making silver the leading issue, or against the tariff, and that it will force the fighting during the campaign. It has a cause in which there is great popular interest, and it has a candidate singularly adapted by origin, temperament and speech-making talent to set the ball of popular discussion in motion. In all likelihood, the Populists will endorse the Democratic nominee and employ in his interest its widely-organized system of public agitation. In the campaign to be fought during the coming four months, the Republicans will have the strength of an abundant supply of money. The large vested interests of the country will fill the Republican campaign pot, and in all the ways which may be organized and supported by liberal use of funds, the Republican managers will have an immense advantage. But the advantage in popular oratory will rest with the combination of Democrats and Populists. Most of the effective stump speakers in the doubtful States will be on their side; most of the fixed national prejudices may be and will be made to do them effective service; the prevailing hard times will second their appeals in a million homes. Up to this time nobody can do anything more than guess what the outcome will be. Indeed, it would be folly even to guess since the main factors in the contest have not yet been fully developed. It will be time to begin guessing when it is determined what course the Populist party will take, when the holting silver Republicans shall have declared their plans, and when the eastern gold-standardists have settled what their policy is to be. In the meantime, those propbets who care to preserve their credit will do well to lie low and await developments.

Gleanings.

GRAIN BUYERS are said to be numerous in the Sacramento and San Joaquin valleys. This is an encouraging sign.

A CORRESPONDENT reports that the whole product of the Los Gatos cannery for the present season has been sold in advance.

SOME miserable wretch is going about the country in the vicinity of Tracy slashing open grain sacks piled in the field.

THE report that L. U. Shippee of Stocktsn is on his death bed is denied. He is suffering from rheumatism, but his condition is in no sense critical.

AT Lodi on the evening of the Fourth Henry Barnhart lost a small field of grain by fire. It is supposed to have caught from a fallen rocket, fired in celebration of the day.

THE Anaheim *Gazette* says that a beet dump has been invented at that place which promises to revolutionize the handling of beet crops. Tim Carroll is the inventor.

HIGHLAND GRANGE in the Santa Cruz mountains has incorporated, its object being to conduct a summer school at Camp Roche and to purchase property in connection with the same.

CHAS. ELLIS of Los Gatos was gored to death last Saturday by a vicious bull. He was tethering the animal when it made a mad rush at him, inflecting injuries from which he died a few hours later.

FORTY per cent of the orange crop of southern California for the season of 1895-6 was sold through the exchanges. It is believed that a still larger share of next season's crop will be disposed of by the same method.

HENRY BROS., near Campbell mountain, eight miles east of Reedley, have harvested 1400 sacks of barley from a 60-acre field. It is reported that J. C. Housley, eight miles east of Reedley has beaten this record but the figures are not given.

THE estimated yield of hops in Sonoma county this year is 9000 bales. In 1894 the yield was 1554 bales and in 1895 1050 bales. Owing to low prices, some growers did not cultivate yards. Three cents a pound have been offered, but growers are disposed to wait for better figures.

EDWARD LE QUESNE, a well-known fruit grower of Saratoga, has fitted up a drying plant and is preparing to handle 2000 tons of fruit during the present season. L. Cunningham of San Jose supplied the whole mechanical plant, which is unsurpassed in Santa Clara county for completeness, convenience and practical economy.

MILLER & HATCHKISS of the Sebastopol (Sonoma Co.) cannery have bought 250 tons of Visalia peaches, the greater part of which will be sent to Sebastopol to be put up. The price was $15 per ton. The Sebastopol establishment will have a prodigious output this season, estimated as follows: 1000 tons of peaches, 60 tons of blackberries, 150 tons of plums and 200 tons of pears.

UP to the present time only stockholders and their families have been employed in the Campbell dryer. It is the intention of the management throughout the season to give work to residents of Campbell in preference to outsiders, and it is doubtful if they will be able to give work to all the local unemployed. One day last week more than forty persons asked for work and were refused.

THE Hanford *Sentinel* sounds the following note of warning to raisin growers: "Agents who have been examining the raisin crop in Kings county, and who have set the yield too high, as some think, are suspected of doing so to keep down the price in the interest of 'skinners.' Producers should go slow and not be too fast in contracting their crops, because the price should be at least 3 cents in the sweatbox."

LOMPOC mustard growers are in the thick of their harvest work. A full crop, says the *Record*, only in a very few instances can be looked for. The yield or output will be less than one-fourth of the previous year, which should have some good effect on prices. There are a good many thousand bags of last year's crop yet stored in the landing warehouse that is being steadily worked off at very low figures—too low, in fact, to encourage future planting.

SAYS the Sonoma *Farmer*: And why not call them California walnuts? They originated in Chili to be sure, and upon being transplanted in England, Spain and France and being sold in London, acquired the commercial name "English walnuts!" However, they grow like the French prune, to a greater state of perfection under our glorious sunshine stimulated by a generous soil, and we again assert that such superior products should be named after the State that gives them their superiority. Push it along.

SAYS the Modesto *Herald*: "So far as harvesting has progressed, the barley yield has been uniformly good, running from eight to sixteen sacks to the acre, but the yield of wheat in the hard lands of the hills on this side of the San Joaquin is falling 25 per cent under estimates, while exceeding estimates about 25 per cent on the plains. In the hills the heads are small, the meshes contain but two grains and the grains are somewhat shrunken. On the plains the meshes are turning out three and four grains and there is little shrinkage."

MR. R. W. BELL, the Santa Rosa nurseryman, returned a few days back from a trip to Yolo, Solano and Napa counties, and reports to the Santa Rosa *Democrat*: "The farmers about Dixon are experimenting largely with sugar beets and that they hope to have a sugar factory established there next year. From Winters west to the foothills a good crop of apricots is reported. East and south of the town the crop is very light. The Winters crop of apricots is put at 1000 tons. About Vacaville, except on the foothills, the fruit is not more than one-third of a crop, and the yield throughout Napa county will be very light indeed."

SAYS the Pomona *Times*: "As this harvest progresses, the fact becomes more clearly apparent that for various causes—frost being one, but perhaps not the chief one—the apricot crop is not only small, but not up to the usual standard. The Pomona Deciduous Fruit Growers' Association will have not more than 70 tons of apricots, and ordinarily it would have about 600. About the same proportion is true of prunes and pears, and peaches relatively less. The causes of short crops are not all referable to frost. The warm weather of February started the sap up and the trees to growing; the cold weather of March checked growth, and it was not resumed with the usual vigor. Prunes and peaches bloomed during two or more months—something unusual."

TREMONT, Solano Co., letter: "Geo. Greive takes the cake this year for the heaviest yield of grain. From 100 acres of barley he harvested 2,000 sacks—an average of 20 sacks per acre, and this, too, from winter-sown grain. The land from time of sowing until harvesting was in use nearly five months and represents a return of $15 per acre. * * * Tremont carries off the cooky this year for good yields of summer-fallow wheat. On the low adobe soils there is being produced from 14 to 16 sacks per acre. On the high land, though, the yield is not so good, as the grain was about three weeks earlier and was badly injured by the frost. Rich, warm land is a good thing to have any time, but there are times when a whole crop is ruined by blossoming too early and being nipped by the frost."

Weather and Crops.

A Period of Exceptionally Hot Weather.—Grain Turning Out Better than Expected.

Following is a summary of the weather and crop report compiled by the State Agricultural Society in co-operation with the U. S. Weather Bureau, James A. Barwick, Director: The record ends with the 13th inst.

Sacramento Valley Counties.

TEHAMA COUNTY (Corning).—Weather fine for harvesting. Highest and lowest temperatures, 103° and 53°.

BUTTE COUNTY (Chico).—Work in many harvest fields has had to be discontinued early each afternoon, so oppressive was the heat on laborers and the stock. Thermometer ranging from 108° to 110° in the shade, and the nights are little better. (Pentz).—Highest and lowest temperatures, 108° and 72°. (Gridley).—Grain turning out better than expected.

COLUSA COUNTY (Colusa).—We have the largest crop of barley that has ever been produced in this county and the quality is good, and it is being sold as fast as it can be sacked. Wheat is turning out well and the quality is good. (Grimes).—The thermometer registered 114°. (Grand Island).—Grain is far above the average; barley especially so. Highest and lowest temperatures, 103° and 67°, with a sprinkle of rain.

SUTTER COUNTY (Pleasant Grove)—Grain is turning out a fair average.

PLACER COUNTY (Newcastle)—Such a prolonged spell of extremely hot weather has not been known for years, but as yet no injury has been done to fruit, which is ripening rapidly. Highest and lowest temperatures, 104° and 68°. (Sheridan)—The grain is much less shrunken than it was thought before threshing; it is yielding well.

SACRAMENTO COUNTY (Orangevale)—Highest and lowest temperatures, 110° and 63°.

YOLO COUNTY (Winters)—The excessive heat has ripened fruit rapidly; quality fully up to the standard. In most of the orchards apricot drying is about through with; the crop has turned out better than was expected, both in quality and quantity.

Napa, Sonoma and Santa Clara Valleys.

NAPA COUNTY (Napa City)—Highest and lowest temperatures, 98° and 52°, with a trace of rain. Grain is of good quality and yield. Peaches are a small crop.

ALAMEDA COUNTY (Irvington)—Barley crop is turning out better than for years past, both in quantity and quality. The grape crop will be the largest ever raised in this locality.

SANTA CLARA COUNTY (San Jose).—Weather has a tendency to check the growth of fruit, particularly apricots and cause them to ripen prematurely. Highest and lowest temperatures, 98° and 60°. No drying or canning peaches has as yet been harvested. Prunes are dropping in places and the aggregate loss in this way will be considerable. The total crop will be considerably less than last year.

SAN BENITO COUNTY (Hollister).—The yield of grain in this valley both in quality and quantity is exceeding expectations. The grain crop of this county will be very much greater than that of last season. Highest and lowest temperatures, 90° and 44°.

San Joaquin Valley.

SAN JOAQUIN COUNTY (Lodi).—The hot week has done some damage to corn and young melons in contact with the hot earth were cooked. Highest and lowest temperatures, 105° and 61°.

STANISLAUS COUNTY (Westley).—Weather very warm, harvesting is progressing rapidly and the yield is holding quite well. Highest and lowest temperature, 113° and 70°.

FRESNO COUNTY (Reedley).—There was a thunder storm and a shower on the 6th. Highest and lowest temperatures, 110° and 84°, with a trace of rain. (Fresno).—Weather good for harvesting and maturing fruit, light showers on the 6th. Highest and lowest temperatures, 112° and 70°.

TULARE COUNTY (Lime Kiln).—Highest and lowest temperatures 113° and 70° (Tulare).—The wheat crop is turning out much better than was supposed. (Monson).—Wheat yield is good and the quality extra. (Traver).—The thermometer registered 110° here and 115° at Dinuba.

Southern California.

SANTA BARBARA COUNTY (Santa Maria).—Some bean fields are nearly entirely destroyed by birds. (La Graciosa).—All kinds of crops seem to be fully up to the average here so far this season, except fruit which was injured by the late frosts. (Carpenteria).—The foggy mornings are fine for beans and all other crops as everything is looking exceedingly well.

VENTURA COUNTY (Santa Paula).—Apricot crop will be very light. Beans are doing fairly well. Highest and lowest temperatures, 84° and 47°.

LOS ANGELES COUNTY (Los Angeles).—A light sprinkle of rain fell at Los Angeles on the 5th and 6th and occasional thunder storms occurred. Beans and corn were benefited by the damp nights. Highest and lowest temperatures, 86° and 58°, with .02 of an inch of rain.

Coast Counties.

HUMBOLDT COUNTY (Eureka).—Feed drying up on the southern exposure. Rain is badly needed. Highest and lowest temperatures, 66° and 51°.

MENDOCINO COUNTY (Pomo).—The hot weather has been damaging to the wheat crop and also to oats. Most of the summer crops are short. Grasshoppers are becoming numerous. Highest and lowest temperatures, 98° and 56°.

SAN LUIS OBISPO COUNTY (San Luis Obispo).—Barley is a very heavy crop, but fogs have delayed heading so that it is badly down in some places and consequently there will be quite a loss. Apricots are a very scarce and light crop, as is also the peach, and the apple will only be a small crop. Pears will be a full crop. Cool weather and no heavy dews have kept pastures in good order, so that there are few deaths among cattle. Highest and lowest temperatures, 100° and 50°, with .04 of an inch of rain.

What a London Fruit Dealer Thinks.

H. M. Isaacs of M. Isaacs & Sons, London, whose firm handled a portion of the California fruit shipped to London last year, has just returned to London from an extensive trip to California. To a reporter he said:

My mission to California was simply in the interests of the fruit business. I made an extended tour of the country and I must say that my impression is that it is still rather young as regards export business. By this I mean that fruit growers generally do not seem to consider the desirability of combining for the purpose of finding fresh outlets for their continually increasing product. The amount of fruit grown in California, of course, is enormous, but some of the earlier results of shipments to London seem to have somewhat disheartened the shippers.

The causes that lead to these early unsatisfactory results were the causes usual to the introduction of a new business. Experience and organization have already removed many of them. I think it was a great mistake for the California fruit to be consigned for sale to Covent Garden, as this market depends almost entirely for its support upon supplies of similar fruit from England and France, and I think this interfered considerably with California having a fair field.

As a proof of this I may mention that California people who were over here last season became convinced of this themselves and placed their later consignments in private hands and at once expressed their satisfaction with the better results obtained.

Their pears are well liked with us, and are now well introduced, and I am sure will always find good sale on this side. I think the fine California plums will also give satisfaction to shippers. Apricots, on the other hand, are not an article in much favor with us, and I do not think there is much prospect in shipping this article in the green state.

In regard to peaches, the condition in which this article arrives seems attended with more risk than pears or plums. As regards the quantities, I think it will be some time before we can give satisfactory results for any large shipments.

For all varieties our London market is as variable as all other fruit markets, but we are quite convinced that the average results to California shippers would be satisfactory, besides further helping to relieve the glut in their own markets.

Continuing, Mr. Isaacs says: I think the dried fruit industry in California will also find a larger outlet here, but only the best fruit and packing should be shipped. The only exception as regards dried fruit I make is raisins. This article I consider has no chance in our market unless the crop of Spain should in any year prove a failure.

Swine Plague in Sacramento Valley.

TO THE EDITOR:—I have a herd of hogs seriously affected with a disease similar if not the same as the swine plague mentioned in the RURAL PRESS of May 30, 1896, page 340. The hogs become sluggish, refuse to eat, and even the wildest can be approached and handled without any protest on their part. They often lay on the belly and refuse to move until forcibly aroused, when they seem to be unable to walk well. They have no control over their hind legs, but use their front legs as usual. The eyes are often gummed shut by a yellowish secretion, and diarrhœa is common in the herd. Just before dying the animals are taken with a violent shivering fit. The pigs and old hogs are both affected, but the mortality is greatest among the young pigs. I have just hauled away eleven to-day and the preceding days have not been much better. Kindly let me know any remedy you can think of, as, at the rate mentioned, the whole herd of three hundred or more will be gone. READER.

Yolo County.

COMMENTS BY DR. E. J. CREELY.

This disease is swine plague in the pulmonary form, and this form prostrates quicker than any other. The article mentioned (in the RURAL of May 30th) describes the disease, its causes, symptoms and treatment. I might add that I have been exceedingly successful in handling this disease, and my success has been due to keeping up their strength by the use of stimulants and using powerful germicides. Have two hospitals; the bad cases keep in one hospital and other sick ones in the other hospital. One ounce of prevention is worth one pound of cure. Begin by treating the well hogs. The instant one gets sick immediately remove it to hospital, and have hospital as far removed from healthy hogs as possible. The very worst cases should be kept in hospital No. 2. When any die it is necessary to bury very deep. Spread chloride of lime around the place and keep as dry and clean as possible. Take one pound of boracic acid, dissolve in two gallons of hot water and wash eyes and nose with the wash several times daily. If the hospital is roofed and closed medicated steaming is indicated several times daily. Get a can holding four or five gallons of water (an ordinary coal oil can will do), put a hot fire under it to cause steam to rise, and into the water put one-half cupful of Little's soluble phenyle, costing $1.50 per gallon, or, in the absence of phenyle, creosote or carbolic acid will do. Steam them thoroughly; it would not hurt to steam the well ones, providing they can be kept under cover for one hour afterwards. Internally give: Quinine sulphate, 1 ounce; acetanilide, 3 ounces; sulphate iron, ½ ounce; nitrate potash, 2 ounces; sodium hyposulphite, 2 ounces; gentian root, 4 ounces; soda bicarbonate, 3 ounces. Give a heaping teaspoonful to a dose three times daily, or it can be mixed with honey or molasses and spread on tongue with a flat stick.

E. J. CREELY, D. V. S.

510 Golden Gate Ave., S. F.

An Invitation.

HAYWARDS, CAL, July 9, 1896.

TO THE EDITOR:—Will you kindly ask your subscribers for a recipe for making sweet pickles of gherkins, using mace? If you will, I and perhaps others will thank you. Sincerely yours,

C. P. NETTLETON.

[Who will answer this query? That there are multitudes of women in California who know perfectly how to make sweet pickles, we have the best reason for knowing. Will not some of them instruct our correspondent?—ED. RURAL.]

HORTICULTURE.

California Apples.

C. H. Shinn, Inspector of the University Experiment Stations, has been writing some California apple gossip for the readers of the N. Y. *Independent*, which will be found interesting to our own people as well as to the folks on the Atlantic side.

California Can Grow Good Apples.—California is a large State, possessing a greater range of climate than any other State in the Union. Every one is willing to admit that we grow good oranges, prunes, almonds, walnuts and apricots. Our peaches are said by some to lack flavor, though of surprising beauty. But criticism seems to center on our apples. A California horticulturist is an especially difficult person to please in the line of fruit. He knows that everything depends upon the place where fruit is grown. He has learned that certain valleys or districts are best adapted to cherries, others to prunes, and so on through the entire list. He has also learned that the rich valleys, warm and sheltered, where his semi-tropic fruits succeed, are not the best apple countries. But the first commercial apple orchards were planted in the lowlands and by the rivers (excepting the small orchards of the old mining camps). Hence arose the quite justifiable idea that California apples were soft, insipid and altogether inferior. Very fair apples came from Oregon to San Francisco, in early days, quite outselling the native products. At times, apples have been brought by the car load from Kansas, Missouri and other Mississippi Valley States. All the while, however, thousands of acres of mountain land, eminently adapted to the growth of apples, have been neglected and forgotten.

The Mountain Apple Regions.—Many years ago I traveled through a number of mountain counties. The old apple orchards attracted my attention. I noticed that in a multitude of districts, at altitudes ranging from 1500 to 4500 feet, and scattered along the Coast Range and the Sierra, all the way from San Diego to Siskiyou, the quality of the apples was extraordinarily high. This seems to be the view of the best apple authorities in America. No finer, higher flavored apple, no cleaner, better colored apple can be grown anywhere in the world than on the isolated benches, or in these mountain valleys and heads of canyons, rich with every requirement. Here are the cold nights, the crisp winters, the perfect summers. Here the famous old apples of notable quality, long forgotten, appear to renew their youth. Here are many promising seedlings of which the world may yet hear.

The total area of the apple country of California is impossible to determine as yet; it is large enough to supply, if need be, the markets of America. But so many other fruits attract planters, that the apple will long receive less attention than it deserves. Those who have good apple orchards, however, are sure that they are profitable.

In April and early May, the best, and indeed the only fine apples in San Francisco came from mountain orchards in the higher fruit districts of Toulumne, Placer, El Dorado; from Franktown, over the line in Nevada, on the eastern slope of the Sierras; and, to a very limited degree, from Lassen and Siskiyou counties, from which transportation is difficult and expensive. These apples were Newtown Pippins, Winesaps, York Imperials and other fine late varieties of high rank in point of quality. There is little sale for the poor varieties. Five dollars per box (of fifty pounds), is cheap at this season, and six or seven dollars is often paid. At that price, or half that, mountain apple growing has a brilliant future, if the location is well selected. The transportation problem is very difficult of solution, however, and a large part of the income from the remote apple orchards must be paid to the railroads. There are localities high overlooking the valleys and yet so near the markets that freights will always be low. Such places can still be found within a 100 miles of San Francisco or Sacramento or Los Angeles—all great shipping centers.

The other day I met a gentleman who has been a large buyer of California apples. He bought up the entire crop of one mountain district last year, and sent it to New York, where it sold at very high prices. "The truth is," he said, "we don't grow enough of this gilt-edge stock. We can't have too many such apples—not for years to come." So, as I understand, the business of apple growing has taken a start.

Apples at the Experiment Stations.—The University of California's Agricultural Department has been collecting varieties of apples for experiments at its stations throughout the State. It has about 600 kinds already, and in a few years will have twice as many. Perhaps forty of these kinds are promising seedlings that have originated in California. Its lists include varieties of all the classic types—Russets, Pearmains, Reinettes, Pippins, Calvilles, Rose apples and the rest. There are German, French, Russian, English and Italian varieties of note, as

well as the standard American sorts. It has been said that 3000 distinct varieties of apples are described in pomological works; but all the commercial orchards in America hardly plant fifty sorts to any notable extent, and few private or family orchards contain a 100 sorts. Now and then one hears of a collector or private experimenter who has several hundred varieties of apples. When its trees reach bearing age, the university collection will be one of the largest in the country.

The Life of the Horticulturist.

One of the most valuable addresses delivered before the Chautauqua assembly in Oregon was that of Mr. Henry E. Dosch, commissioner of the first horticultural district of that State. The following is an appreciative paragraph which we know many readers of the RURAL will enjoy:

The first thought that enters one's mind is, "What is horticulture?" If we look into Webster's dictionary we find "The art of cultivating gardens and orchards," and a horticulturist is one "who is skilled in the art of cultivating gardens and orchards." If we look into the Encyclopedia Britannica we find "Horticulture embraces the art and science of the cultivation of flowers, fruits and vegetables" (please note the emphasis placed on the words "art" and "science"), the subject being treated from a scientific and practical standpoint, covering eighty-five pages of nicely printed matter. But does it not mean more?

When the Creator of this universe laid out the Garden of Eden, and planted trees for ornament as well as fruits, he placed therein the first couple, and intended them to be horticulturists. They were happy as long as they remained in their country home; but at an evil hour they were driven out, and ever since man has striven to place those who were given him to love and care for in a similar Garden of Eden.

Why People Turn to Horticulture.—Many of you may be dissatisfied with your farms or orchards, but you do not seem to know how very much better you are situated than your city friends. It is not all gold that glitters, and I am in a position to know whereof I speak. During my eight years' service as horticultural commissioner I have received hundreds of letters from all classes of city people—lawyers, doctors, bookkeepers and other clerks—yes, even from typewriters—asking my advice about horticulture as a better employment for them. And why have these people sought my advice? Not because I have made a success of horticulture, but because the politician has found that office-seeking and political power is a snare and a delusion; others have found that the chase after gold is delusive and seldom reached, and many others have found that social position is but a bubble, after all; and, finally, after their varied disappointments, sick at heart and ill in body, they turn to nature for their solace. It brings them nearer to their Creator, and the nearer they come to Him the less disappointments they meet, and the more peace, happiness and contentment they find. He speaks to them through the flowers and vegetables they grow in their gardens; through the fruit trees they plant and cultivate and through the songs of the birds that fill the air. Ah, my friends, there are very few men, even if they do achieve all their heart's desires—be it money, political power or social position—that will not sooner or later turn to nature. Many of these people have since become thorough and successful horticulturists, regaining health in body and peace of mind.

Occasionally I am asked by a city friend this question: "I. cannot understand how you can live in the country when you can live in the city." And my reply is, "I cannot understand how you can live in the city when you can afford to live in the country, for it is a privilege, and some day you will find it out."

THE GREAT HORTICULTURAL PROBLEM.

In the course of Mr. Dosch's address, to which we have alluded, there is a picture of the present situation in fruit growing which is so true to the facts that too much emphasis cannot be given to it. He said:

Horticulture, as we understand it, is no longer a problem, thanks to the scientific investigation of the professors of our Experiment Stations throughout the United States and practical fruit growers; we know the soils best adapted for the various fruits, the best varieties to plant for family use or commercial purposes, and know how to evaporate them; we also know what varieties to plant together for pollinating purposes; we know the diseases and insects infecting trees and fruits, and how to combat them, but the marketing of our products to advantage is the greatest problem that confronts us. There has been written and said a great deal on this subject, much of which is true and much false. After a good deal of study and careful consideration, I came to the conclusion that co-operation is the only way to solve it. Fruit growing communities must form local associations and send representatives to form county associations, they in turn send delegates to form State associations, and these must form a great United States association. This may seem impossible to you, but I assure you nothing is impossible to the intelligent American citizen in this age. It is absolutely necessary to bring the producer and consumer closer together, so the former will receive remunerative prices for his products, and the latter will not have to pay the existing exorbitant prices.

Fruits must be brought to a common center and there properly graded and packed and honestly marked on the outside of its contents. Apples and pears should be of uniform size in each box, and marked how many in each box, as oranges are now marked, so the purchaser knows what he is buying; for hotel and boarding house keepers will pay more for smaller-sized fruits, if uniform, than larger ones or mixed, as they are more profitable to them, while families prefer the larger ones. Hence it is really a gain to grade them.

AGRICULTURAL SCIENCE.

Outlines of the Lectures at Camp Roache.

As RURAL readers are aware, the summer school of agriculture and economics opened at Camp Roache, near Wrights, in the Santa Cruz mountains, on July 6th. The institution is directly conducted by Highland Grange, and is under the auspices of the State Grange committee on education. The attendance of students from the outside is rather small, but a very attentive and interested audience is furnished by residents and their summer guests. The young scribes of the locality, who are very handy with their pens, furnish outlines of the lectures, and to this source we are indebted for the following:

How Insects Injure Plants.—The summer school opened with a lecture by Prof. Woodworth of Berkeley on the subject of "How Insects Injure Plants." It is the first of a series of three lectures intended to give such ideas as to the nature of insects, their means of livelihood and the precise methods by which they injure plant life that orchardists can carry on the warfare against them intelligently and successfully. The foundation of the lecture was a description of the processes of the death of a plant. Beginning with a normal condition, a lack of water caused by drought, or injury to the root, results in a gradual closing of the pores in its endeavor to save its life by stopping the evaporation of its moisture. If the lack of water continues the cells will become flabby and the leaves will wilt. This condition, however, it can usually endure a long time, generally reviving in the night and sustaining no permanent harm. If, however, at this time the plant is covered with scale, lice or other sucking insects, the drain of moisture continues in spite of the closing of the pores, and the plant passes into the death stage, when the tissues become dry and hard, no longer permitting the passage of water, and from which it cannot recover. The injurious effects of insects, therefore, depend largely on the external conditions of the plant, which vary with localities, seasons and even the time of day. Scale may during the year cover a tree and do it no harm, while the next year it may be killed by no great number.

Relations of Seasons to Insect Injury.—In his second lecture Prof. Woodworth traced the growth of the plant from the increase of sap in the spring to the starting of buds, leafing out, until evaporation equals the absorption of moisture by the roots, storing of food under the bark, which forms a layer there, and then to the final stimulation of root growth and increase of root absorption, which leads to the increased leaf growth.

He spoke of the primitive cycle of insect life, and divided it into three stages, viz., egg, nymph or intermediate stage, and imago or adult stage, and stated that when the insect was in the nymph stage it is particularly susceptible to disease. He spoke of different ways in which the seasons affect the growth of the insect, stating that the condition of the season does not alone affect insect life, but a combination of climatic conditions with the condition of the plant and the insect produces the injurious results. Seasons containing no quick changes in temperature were, he said, those in which insects thrive best. The speaker urged careful watching of orchards during spring months in order that the growth of the insect might be carefully noted and effective steps taken toward exterminating it at the most opportune time.

Insecticides.—Prof. Woodworth's last lecture was upon insecticides. He gave a short description of many insects, showing their manner of growth and methods of attacking the tree, and also the proper insecticides and manner of application. The exact formulas, he said, could be obtained by addressing the agricultural experiment station at Berkeley. Among those touched upon are the following: For codlin moth, spraying with pure Paris green, being sure to apply during the work of the second and third broods. For woolly aphis, which does injury to the crown of the tree only, scattering of wood ashes or gas lime around that portion of the tree. For black and brown scale he urged irrigation and thorough cultivation, in order to secure a good supply of moisture. For the red spider, which is dangerous only in time of drought or in dry localities, a thorough drenching with water. Sulphur applied as on grape vines is also good. For the pear slug one application of Paris green is sufficient.

Up to Date Viticulture.—On Thursday the subject changed and the lecture was by Instructor Hayne of the State University upon "Up to Date Practice in Viticulture." Mr. Hayne began with the statement which has been so frequently made of late that our viticulturists must look forward sooner or later to the death of every vine not upon resistant stock. It is true that there are insecticides which will kill the phylloxera and not kill the vine, but none has been found nor is there any reason to expect that any will be discovered that will cure the pest so effectually as not to require annular treatment. Annual treatment will cost more than the vines are worth.

The cheapest effectual preparation for this purpose is bisulphide of carbon. This can be applied every year only to vines producing wines of great price, like the well-known chateau wines of France. For ordinary vineyards the treatment will not pay. What, therefore, the California vineyardist can do is to carefully watch for the appearance of the pest, fight it promptly and vigorously from the start, keep it back as long as possible and when it begins to increase rapidly change the resistant stock.

Mr. Hayne gave the history of the introduction of resistant stock and the immense losses by errors in planting. The conclusion is that phylloxera will kill any vine which is planted in a soil or climate which is unfavorable to it, but will not kill certain varieties when planted in favorable situations. Individual growers, therefore, must study their own conditions in the light of the best advice obtainable, and make some experiments before planting largely. They can succeed in the end by taking pains.

The groups riparia and rupestris have after 25 costly years of French experience been found the most satisfactory of American wild vines, and in selecting the right varieties of these the greatest care should be exercised. Varieties with small leaves and slender canes are worthless. This spring the State University imported several thousand of the resistants found most satisfactory in France, and will distribute them throughout the State. Each man must experiment and find out what is best for his own particular locality. Mr. Hayne recommended grafting in nursery, instead of in the field. He also recommended that, to prevent the spread of the Anaheim disease, the importation of cuttings from infected localities should be prohibited.

Foes of the Olive Manufacturer.—In his address on the olive and its products, Mr. Hayne emphasized the need of extreme care against the intrusion of unfriendly influences. His first caution in handling the olive, either for oil or pickles, was to guard against mould. He said that if he were buying olives and found fifty mouldy olives in a wagon load offered he would reject the whole lot.

He then proceeded to discuss moulds. They all come from spores which are always present in the air and cannot be exterminated. The only way is to prevent their germination or to kill the plants which they form after germination. There are many kinds of moulds. For their development they all require heat and moisture. These they always get when they are lodged on picked olives packed in barrels or placed in deep piles.

The reason all olives do not mould under such conditions is that, although the spores germinate, their roots cannot penetrate the skin of a sound olive and they die. But they do penetrate the bruised or broken olives and live and grow, and their product taints the whole mass. A bad taste thus communicated to olive oil can never be removed.

In the manufacture of oil, absolute cleanliness must be maintained in regard to all implements used, amounting to absolute sterilization of all surfaces coming in contact with the olives or their product.

PROF. ROSS ON ECONOMICS.

The subject of economics occupied by Prof. E. A. Ross of Stanford University each afternoon during the two weeks of the school. The first week was given to five lectures on transportation.

Effects of Improved Transportation Facilities.—The effects of improved methods of transportation are the building up of large industrial centers, the specialization of farming communities upon one or more crops, keener business competition, resulting oftentimes in trusts and greater sympathy between prices in different markets. The transportation agencies of the country form a system of related parts, from the pack mule to the double-track railroad. The canals and the country road are not absolute as some suppose. The transportation system must include all grades of agencies, because of the diversity of the traffic.

Water Transportation.—After giving several fundamental principles of transportation and describing their manner of growth in the United States, Prof. Ross spoke of waterways, and divided them into natural waterways, which he defined as oceans and rivers having a depth of 30 feet and over, and artificial waterways, such as ship canals connecting two

systems of natural waterways and inland canals connecting lakes.

All canals, he thought, should be under control of the public, through either the State or nation, as their being controlled by private corporations, which constantly tend toward combination, would lessen their power as the best and most satisfactory regulator of railroad rates that has ever been found. A complete system of waterways, he thought, was an almost perfect regulator of railroad rates. Besides being under public control, they should be public highways.

In touching on the Nicaragua canal, Prof. Ross showed how England could undersell our country at present in western South American countries, and how the building of this canal would greatly benefit the agricultural interests of the Pacific coast and the manufacturing interests of the Eastern States. He said that the sentiment in favor of building this canal was rapidly growing and predicted that within five years the shovels of Uncle Sam would be found undertaking this great enterprise.

Railroad Corporations.—Professor Ross next discussed the railroad corporations and their relations and methods of dealing with each other and the public. In part he said that in the corporation the moral element is at a minimum, and hence railroads often refuse to protect their patrons, employees or the public by the abolition of car stoves, link couplers or grade crossings until compelled by law. The presence of conflicting financial interests in the corporation has in the absence of stringent corporation laws resulted in a shameful disregard of the stockholders' interests by railroad managers.

The manipulation of rates and accounts, in order to affect the price of stocks, and the formation of profit-seeking parasite corporations by an inside ring, have made such a scandal that European visitors have become shy of American railway securities. The building of a road with the proceeds of bonds sold, often at a discount, instead of with money paid in on stock, has resulted in enormous over-capitalization, which furnishes an excuse for high rates.

The mortgaging of so much of the railway's revenue in advance for the payment of interest on bonds must, if the regime of falling prices continues, inevitably carry the majority of our railroads into bankruptcy. Not until complete financial reorganization has been secured can stability be maintained.

Railroad Rates.—Professor Ross next dealt with railroad rates. He declared that "no single formula affords the basis of a just system of rates. Neither charging according to cost of service or according to ton per mile or according to distance yields a satisfactory schedule."

The main principles for a system of rates are that charges should take into account the value of the goods. They should favor the broadest development of agriculture and the mining industry. Personal discrimination should not be allowed. Large centers should not be favored to the injury of smaller towns.

The principle of charging "all that the traffic will bear" was roundly condemned, while it was admitted that charges should have some reference to what the traffic could endure. Railroad competition, he said, terminates naturally in bankruptcy or consolidation. Pooling was defended as necessary in some cases and allowable under proper supervision.

Control of Transportation Companies.—Professor Ross next discussed the practical methods by which it is in the power of the public to control railroad corporations and assure good service to the public with proper compensation to the companies. He first described the Massachusetts plan of a railroad commission with power only to investigate and recommend. In his opinion, while that plan worked and still works well in Massachusetts, it was not suited to the Western States, the reason being that in Massachusetts the stockholders who own the roads are part of the people to be served, living in their midst and amenable to public opinion, while the Western railroads are owned and often managed by non-residents.

In the Western States, therefore, strong commissions have been found necessary with full power. The peculiar situation in California was described. He said that under the law as now existing and interpreted by the Supreme Court, the commission may fix rates, but must not make them so low that they will pay no interest on the investment. Under this ruling the railroad shows the record of stock and bonds outstanding and claims the right to earn interest on their face.

The people, on the other hand, claim that the face of these securities does not represent the actual money put into the roads. This is the question in dispute between the companies and the public, and its treatment involves the discussion of so many subordinate but intricate subjects as to make it exceedingly difficult of just solution.

The reasons were explained why it was not in the public interest that railroads should drive each other by competition into bankruptcy; and as this result seems inevitable under present conditions, the professor believed that pooling under national control should be permitted. In general, it was his belief that, for the immediate future, it should be our policy rather to perfect State control than to seek for State ownership.

THE DAIRY.

Another Way to Make a Round Silo.

We have recently described two forms of silo construction—one used in Minnesota and another in southern California. Still another is described in the *Southern Planter* as having rendered several years satisfactory service in Virginia.

A Hundred-ton Round Silo.—This silo has a diameter of eighteen feet inside measurement and a depth of twenty-one feet. The foundations for the building were laid in a circular trench three feet deep and one foot wide. This trench was filled with small stones and good mortar well grouted together, thus practically making a concrete foundation. Upon this wall so built the sill was laid and bedded in the mortar to its full depth (three inches). This sill was made from three-inch boards one-half inch thick, four of these being nailed together round a circle of stakes eighteen feet in diameter, with the joints of the boards broken in each layer. This practically made a hoop of the size required for the sill. The plate was built up in the same way, but was reduced in width to two inches. After the sill had been bedded down on the foundation, the studs, 2 by 4, were set upon it two feet from center to center and spiked to the sill and plate. The frame was now ready for boarding, and this was commenced on the inside at the level of the sill. The outside boarding was not commenced nearer the sill than nine inches. This nine inches was closed by continuing the foundation wall or concrete in a sloping form from the outside of the wall to this height, thus carrying off water running down the outside of the silo and keeping it from the sills and studs. The boarding of the silo, both inside and outside, was half-inch weather boards. No difficulty was experienced in bending these boards round the circumference of the silo. Joints were broken every course, and the inside boarding was always kept two boards ahead of the outside, thus keeping the studding firm and straight. The space between the inside and outside boarding was filled as the boarding proceeded with well-mixed mortar made of good lime and clean sharp sand. In this way the walls were made solid and air-tight. The roof was circular, covered with boards twelve feet long ripped cornerwise, and was strengthened with two rims around the rafters inside between the plate and the apex of the roof. These rims were built up in the same way as the sill and plate. The roof was then covered with two thicknesses of tarred paper, breaking the joints, and afterwards painted with two coats of tar and well sanded. The openings into the silo are three in number, each two feet by three feet, one over the other, and two feet apart, between two of the studs. These have outside doors hung on hinges, and are closed inside with loose boards as the filling proceeds, the space between the inside and outside doors being packed with sawdust. After the building was completed, the ground inside was excavated two feet deep, thus increasing the depth to twenty-one feet.

The Materials Required.—The materials required for the building of this silo were as follows:

Lumber—28 pieces 2 by 4, 18 feet long . . .	336 feet
8 pieces 2 by 4, 12 feet long . . .	96 feet
2200 feet half-inch weather boards	2200 feet
32 pieces 1 by 12, 12 feet long . .	384 feet
Total	3016 feet

One hundred pounds nails (8's) and a few pounds of spikes.

Six barrels of lime and as much good clean sand as necessary to make a strong mortar.

Three rolls of tarred paper.

Half barrel of gas tar.

The inside of the silo was painted with two good coats of tar.

If kept regularly painted with a mixture of boiling tar and pitch, to which a few pounds of rosin should be added, the silo will last for twenty years.

Rearing Calves With Creamery Skim Milk.

The best way to raise calves with the separated skim milk brought back from the creamery is a matter of much importance to our dairy readers in view of the multiplication of these establishments in California. At a recent Farmers' Institute in Wisconsin the procedure above mentioned was discussed by A. M. Stevens, and very pertinent suggestions were made:

The Creamery Calf.—It has been said that "the calf is the mother of the cow." And if intended for the dairy it should be specially bred for the particular line of dairying in which it is expected to be used.

Whole milk is their natural food, but too expensive, and as skim milk may be considered a by-product of the dairy it is the most available, as well as the most natural food we have for the calves.

Composition of Skim Milk.—In skimming average milk, say testing 4.2% fat, about one-fourth of the total solids is removed, and the skim milk will contain about 19.6% solids not fat, and from .1% to .2% of fat. The most important part of the milk for feeding purposes is still left in the skim milk, that is to say, the protein (the per cent of which is a trifle larger in the skim milk), and the most of the fat, a portion of the heat-producing elements, is removed in skimming.

As the bones, ligaments, muscles, tendons, nerves, and internal organs are largely made up of protein and albuminoids, and as the per cent of protein is a trifle larger in the skim milk than it is in the whole milk, and a small per cent of the carbohydrates, or heat-forming elements, is still retained in the skim milk, we still have a good basis for a ration for calves in skim milk.

The lack of heat-making elements may be largely compensated for by furnishing the calves warm, dry, sunny quarters, where they will be comfortable and not exposed to cold weather and driving winds.

How to Feed Skim Milk.—In feeding skim milk to calves, and especially after it has begun to sour, the most important thing to mix with it is common sense. And an inspection of the calves reared on skim milk, on some ranches, show by their scrawny appearance, an evidence of indigestion which is too plain to be mistaken, the entire absence of the above mentioned ingredient in their ration.

The most common mistake made in feeding skim milk is to feed too much of it. The stomach is overloaded and the food ferments, and scours is the result. The calf dwindles and then we hear the complaint, "That milk is pretty thin, boys; the calves are not doing well; give them more milk"—not perceiving they are already being fed more than they can digest.

How the Calves are Handled.—We shall not attempt to give a balanced ration, but will give our method of feeding calves, and invite an inspection of the calves as evidence of the success of the method. The calves are allowed to suck their dams twice a day for one or two days. If the dam's udder is much swollen they are allowed to suck somewhat longer. Then they are taken from the cow and kept in a portion of the barn devoted to their use. This apartment is kept clean and well bedded with straw. They are fed their dam's milk for about one week; then we begin to add a small quantity of skim milk, and by the time they are four weeks old they are taking skim milk straight. As to the amount each calf is fed, that depends entirely upon the calf. Feed each just what it can digest, and no more.

Each calf is confined in a stanchion while being fed, so that each gets its allowance without interference from the other. A small box is placed in front of the stanchion, and a handful of ground oats, or barley, or mill feed, whichever is at hand, is placed in it. And it is surprising to see how young the calves will begin to eat it, and are given of these feeds all they will eat up clean. We do not mix the ground feed with the milk, preferring to feed it dry. Hay is kept within their reach in winter, and when grass is not convenient a lot is fixed so the calves can bask in the sunshine and get exercise.

Warming the Food.—Our milk is sent to the creamery and skim milk is returned about noon, which is too late for the morning meal, and by evening, in warm weather, it is more or less sour, but it is fed all the same as if it was sweet. We do not send the milk to the creamery on Sunday, and have to save a double portion Saturday so as to have enough for Sunday. And by Sunday evening, in warm weather, it is loppered, but the calves do not seem to know the difference. In cool weather, and especially in winter, the skim milk is warmed by putting enough hot water in it to warm it up to 70° to 80° F., as it is as bad to feed chilled milk as it is to over feed. If scours occur, cut down the amount of feed until the calf can digest what is fed.

Treatment for Scours.—Last September we had our first round with scours. A new man thought he knew more about feeding calves than we did, so increased the feed for them, and in a few days the calves were "performing the garden hose act," each trying to outdo the other. We went to the barn at feeding time to find out what the trouble was, and watched. In a few minutes he came with a bucket in which was 14 pounds of rich milk to give to a calf two weeks old. There was nearly 1 pound of butter in the milk. It is needless to say he did not feed the calves any more, and we got some experience. Well, we got hot water, some fresh milk, and some charcoal, and fresh eggs. We gave the smaller calves 1 pint fresh milk, 1 pint warm water, 2 eggs, beaten up, and 1 tablespoonful of charcoal, all mixed together. To the larger calves we gave 1 quart milk, the same of water, 2 eggs, and 1 spoonful of charcoal, to start with, and then slacked some lime and made lime water and added about ½ gill to the above allowance; fed the above twice a day, and in a few days the calves were all right. The feed was gradually increased until they were getting their allowance. Each calf's milk is measured to it. There is no guessing. They get from 2 to 4 quarts each, according to age and size, at a feed. As each should be fed according to individuality, we will repeat, feed all they will digest, so they keep thrifty, and if they are intended for dairy cows they should not be fed enough to fatten them. That you may judge something of the condition of

our calves, will say that by coaching them a little our grade bull calves are sold for veal.

We would prefer to feed the milk sweet if we could so get it.

THE POULTRY YARD.

Interesting Experience in Sacramento County.

S. W. Palin, of Galt, who has been in the poultry business in California for more than a quarter of a century, writes a very interesting letter to the *Poultry Monthly*, and his incisive comments will be enjoyed by many other growers in this State.

A Long Systematic Effort.—I have been in the poultry business more or less extensively since 1870, having raised large numbers of turkeys in the seventies—as high as 1300 in a flock—therefore, I am no novice in the business. From turkeys I got to chickens, and for many years have raised from 200 to 400 annually—all thoroughbreds—from the best stock obtainable. Of the different varieties I have tried (and I have tried quite a number), I find the S. C. White Leghorn gives the best satisfaction, as their eggs are a good size and bring the top price in the market, that being my line.

During all these years I have not gone on blindly, but have kept *close account* with each breed separately, and I can assure you that, while my loss and gain account is an interesting study, it is by no means a pleasant one. It shows my loss one year to have exceeded my highest gain in any one year; and yet I have had no epidemic of roup, cholera, gapes or any contagious disease. Sporadic cases have occurred, but I have had no heavy losses from that cause.

The Business Not Over-Profitable.—Day after day, Sunday and week-day, early and late, year in and year out, I devoted all the time I could possibly get from my business to my fowls in my efforts to make them pay. I also made slaves of my family, with the result that my better half has years ago been disgusted, my children wish they had never seen a chicken, and I have come to the conclusion that the same amount of energy put into any other business would have given much better results financially.

The amount of bosh written on the poultry business is enough to disgust anyone who has had any experience. Profits of $2 and $2.50 per hen; hens laying 150 and 200 eggs; eggs averaging 25 or 30 cents a dozen; capons at $18 per dozen; all such is misleading. No doubt hens have laid 200 eggs each. I have had them myself, and I have sold eggs at 75 cents per dozen for market purposes; also young roosters at $13 per dozen, and hens at $12 per dozen. But when I figure out the *average* yield of eggs from *hundreds* of hens, I find the best yield I ever had to be 111 per hen for twelve months from S. C. B. Leghorns. I also find that the average price received per dozen for 1895 was 16½ cents (this year it will be lower) and the average cost per hen 85 cents, and still I get as many eggs as any of my neighbors, and more than nine-tenths of them, and always get the highest market price, often a trifle over. I also find that in figuring my stock (all thoroughbreds) on the first of January at 30 cents each, that I have overestimated them; that what I sell of them during the year do not *average* that much. Last week I sold some fine Plymouth Rock hens in the San Francisco market at $4.25 per dozen; they netted me 29½ cents each; some fourteen-weeks-old broilers brought $2.50 per dozen, and have heard of capons being sold as old hens.

Still, There May be a Living in It.—Still, I believe a living can be made from fowls, but only by hard work and untiring application. No widow, invalid or cripple need undertake it, and I say it is wrong to lead such to invest their small hoard in a business from which the returns are so inadequate to the amount of labor.

As an adjunct to the farm, fowls are invaluable, and more attention should be paid to them by farmers. They are a success, if only half attended to; but as a business of itself, I think a good deal as an acquaintance of mine once said. Several years ago he came here from the East, where he had been engaged in the poultry business, but, so far as I could find out, it had not been a financial success. Still, he was very enthusiastic and believed he could make it pay well on this coast, where everything, as he termed it, was so favorable. Both fowls and hens were much higher then than now. So, together with his brother, he embarked in the business. He was a good judge of fowls and seemed to know what he wanted. Bought Plymouth Rocks, from which to raise broilers, and S. C. W. Leghorns for eggs. The brother took a position, I believe, in San Francisco, and my friend ran the business. For some time I lost sight of him, when one day he turned up smiling and apparently prosperous. After the usual greeting, I asked him how the poultry business was progressing. He replied: "Oh, darn the poultry business; it is too expensive a luxury. We could not earn enough on the outside to keep the business running, so closed out." And yet this man is successful in other lines.

A Good Word for Ducks.

Under certain favorable conditions, says M. S. Dixon in the *Poultry Monthly*, the breeding of ducks is very profitable, and there are few farms or small country places upon which a few ducks could not be kept with both pleasure and profit. Of course, these birds belong to the classes of water fowl, and therefore it is desirable to have a pond, spring, brook, lake, or some small, clean body of water, in which the ducks may bathe and freshen their plumage (which soon becomes soiled and dirty), as well as secure considerable food in the shape of water plants, insects, worms, etc. Wherever a duck plant is located near an arm of the sea, the ducks secure much food in shape of fish, quahaugs, clams, etc., at each ebb tide. But notwithstanding the desirability of water privileges, ducks will get along and do very well with only enough water for drinking purposes, and indeed thousands upon thousands of ducks that have graced tables of hotels, epicures and others, never saw more water than their drinking dishes held, from time of hatching until death ended all.

That roast duck is fine eating cannot be denied, and that duck eggs are large and very nutritious also cannot be gainsaid. Hence a flock of a dozen, or less, of ducks will go quite a distance in keeping the family in the best of provision. One very important item about the duck is that, when properly cared for in a small flock, she will continue laying for three or four months a fine, large egg, just as truly as the day comes around. The hen is satisfied to lay every other day, or even less, but the duck carries on active business every day. It is not a good plan to pen ducks in very large flocks. Twenty-five ducks to a pen is plenty, and four lively drakes about right for the twenty-five ducks. During the laying season keep the ducks confined during the forenoon, when the eggs will have been about all dropped; then set them at liberty during the afternoon. Ducks are great eaters, but luckily not over particular. They seem to crave bulky, filling food; so boil roots for them, such as beets, carrots, onions, potatoes and turnips. Mash these and add a mixture of ground grain composed of bran, ground oats, corn meal and linseed meal. Mix the grain something as follows: One peck bran, one peck oats, one peck corn meal and two quarts linseed meal. Do not forget oyster shells for grit and to help form the egg shells, for the making of which a great deal of carbonate of lime is needed. The young ducklings are at first quite tender, and must be kept from rains, water and all dampness. Feed them milk with the regular foods, if possible, and force rapid growth. As soon as they acquire regular feathers they are hardy and tough.

Selected Suggestions.

Males in Laying Pens.—The advice is very commonly given by modern poultry writers that where eggs are wanted for the table simply, and not for breeding purposes, keeping a male in the flock is not only useless but a positive disadvantage, the reason assigned usually being that the eggs will keep longer if no male is kept in the pen. The reason is doubtless a good one, but it is not the only one. A series of experiments covering the point, undertaken at the New York Experiment Station, made it very conclusively appear that where hens were kept without a male eggs were produced at about 30 per cent less cost than exactly similar pens where cocks and cockerels were kept. In some pens, too, the production of eggs was nearly a third larger in pens where no males were kept than in others of precisely the same kind, managed in the same way, except that the presence of the male was permitted. Keeping males in laying pens, therefore, except where fertile eggs are wanted for setting, is a mistake in a variety of ways. The eggs are produced less economically, they are liable to be fewer in number, and they are not as good keepers.

Meat for Fowls.—It is acknowledged by all who breed poultry that meat is not only necessary but essential, especially if the flock is confined. The difficulty is how to procure a supply. The scraps from the table are sufficient for a small number, but amount to nothing for large flocks. The ordinary pressed meat from bone-boiling establishments has served an excellent purpose, but too much labor is required to chop it, especially in winter, when it becomes frozen. There are ground meats prepared for fowls, but farmers are adverse to buying articles put up in such condition, for fear of adulteration. If near a market-house, the refuse portion of slaughtered animals may be used; but when this is inoperative the farmer can make no substitute in the shape of meat, but he can make a substitute in the shape of butter-milk, oat meal, linseed meal and other materials rich in nitrogen. The best of all substitutes is milk, whether in the full or skimmed, and it may be placed where the fowls can drink it, or it may be mixed with their soft food. About one ounce of meat three times a week is sufficient for one hen or about two pounds weekly for a flock of ten.

When To Use Soft Food.—One meal of soft food is sufficient, and it should be given early in the morning, warm. No meals are necessary at noon, as it is better to allow the hens to be hungry so as to compel them to scratch than to keeps their crops full, in which case they become very fat. At night scatter the grains so that the hens will have a job searching for them. Should any be left over they will be found by the hens the next morning. Soft food may consist of anything that can be fed in that condition. It is the meal to which all the extra foods are added. It should never be very soft, but of a consistency to allow it to be crumbled.

Mode of Feeding.—If whole grains are given scatter them over as wide a space as possible, so as not to crowd the hens while eating, and also to prevent the greedy ones from taking an advantage. The soft food is best given on boards one foot square, using a number for that purpose, so as to place the food at wide intervals for the same purpose.

Vices of Hens.—The reason why hens eat their eggs is often due to an insufficiency of egg-producing food. True, they may acquire the habit from others, but as the eggs must be produced from any substances which are difficult of procurement by the hens. they find such in the ready food of the eggs eaten by them, for nature prompts them to appropriate anything that serves to increase their capacity for performing the duties assigned. To prevent the hens eating the eggs, they should be fed on a variety of food—milk and meat at least three times a week being excellent. Construct the nests so that they will be secluded and dark and the temptation will depart. The fowls that are prone to foraging, such as Leghorns and Hamburgs, are more subject to this vice than other kinds, for confinement requires a supply for all, or the equivalent of that which the fowl secures when on the range. The Brahmas, being somewhat phlegmatic in disposition and less active than the smaller breeds, bear confinement well, but even they will indulge in egg eating when confined too closely on one kind of food. The same cause is attributable to the pulling of feathers, which is one of the most detestable crimes that a hen can be guilty of, as the feathers contain nitrogen, phosphorous, sulphur, potash and carbon, the two former being often deficient in the food given on most farms. It is much easier to prevent vices than to cure them, for fowls, like humans, are sometimes obstinate, and the best way to prevent egg eating and feather pulling is to remove the necessity for it by feeding food containing all the elements that serve to nourish both the body and the embryo egg.

Importance of Gritty Material.—Because the flock has the run of a field is no reason for supposing that a plentiful supply of gritty material is found by the hens. A calculation will show that when the hens are searching daily over every portion of the range that only a short time is required for them to appropriate all the gritty material that can be utilized. It is not every kind of hard substance that will answer the purpose. Round gravel is not suitable. The hens should have sharp, cutting material, such as flint, broken china and earthen ware, or even glass. Where they are confined it is still more important that the matter of providing grit should not be overlooked. Grit is the teeth of fowls, and without it they cannot masticate their food and thereby prepare it for digestion.

The Distribution of Agricultural Documents.

The Division of Publications of the United States Department of Agriculture sends us the following statement about the limitations imposed upon department publications by the printing bill. It may explain why some of our readers are disappointed:

The correspondence of the Department of Agriculture indicates that very few people realize the limitations imposed upon the publications of that department under the printing bill of January 12, 1895. Constant complaints are being received of the limitation of certain bulletins of a very popular character, such for instance as that on Nut Culture and that on the Honey Bee, of which only 1000 copies—not one-twentieth of what is needed to supply the demand—were printed, and the so-called policy of the secretary in limiting the number printed and in turning over the bulletins remaining in his hands after providing for those required for the official use of the department, is the subject of frequent criticism. As a matter of fact, under the law referred to the secretary is obliged to turn over to the superintendent of documents all copies of every bulletin over and above those required for official use, and the law is quite clear that "official use" does not include a general distribution. This applies to all publications save those whose distribution is otherwise provided for by law, such as farmers' bulletins. As to the publication of small editions of 1000 copies, that is a matter regulated by this law, which provides in terms for the limitation to 1000 copies in any one year of any bulletin published which shall exceed in bulk 100 octavo pages. Members of Congress frequently prefer requests for documents which the department can not under the law comply with, but not frequently they criticise what they call the policy of the department in regard to the sale of its publications, which is a matter strictly belonging to the jurisdiction of the superintendent of documents.

Why Stone Walls are Damp.

The walls of a stone house and sometimes of a brick house, are covered with dampness. This is due to the very same causes by which dew is deposited on grasses or moisture on the side of a glass or pitcher that is filled with ice water and brought into a warm room. The walls become cold, and as stone is a nonconductor of heat, they remain cold for a long time. When the weather changes suddenly from cold to warm, the air becomes filled with moisture, for the warmer the air is the more moisture it will absorb. When this warm air strikes the cold walls the moisture is deposited on it from the air, which is suddenly cooled by contact with them, and as the warm air is continually coming in contact with the cold walls, the dampness accumulates until it appears like dew upon them, and pours down in streams at times. It is easily prevented. No plaster should be put directly upon brick or stone but furring strips should be nailed to the wall and the laths put on these. Cellars are frequently made very damp in the same way by too much ventilation in warm weather.

In every commercial transaction involving any semblance to a contract, it is always best to have a definite understanding between the parties, and, if possible, that understanding should be in black and white. He who borrows even $5 should insist on giving a note therefor, and the lender ought not to refuse it. As far as possible, payments should be made in bank checks, and receipts invariably given and required. In extending credit it is especially necessary that a day of settlement should be fixed, and that the debtor, as well as his creditor, should understand that the designated day is to be a day of settlement. No one should enter the employ of another, nor should anyone receive service, until the question of remuneration has been definitely decided. In business it does not do to take things for granted. People are very likely to form different ideas of the meaning of a verbal agreement, and any man's memory is treacherous at times. If men would only insist upon understanding the contracts between them as they were made, there would be no necessity of appealing to the law for an interpretation. No one knows how much litigation, and loss, and dishonesty, and trouble, would be obviated if business people strictly adhered to the rule of undertaking no obligation without first arriving at a mutual conclusion as to the exact limits of that obligation.

A medical authority says celery is a cure for rheumatism, and asserts that the disease is impossible if the vegetable be cooked and freely eaten. The fact that it is almost always put on the table raw prevents its therapeutic powers from becoming known. The celery should be cut into bits, boiled in water until soft, and the water drunk by the patient. Put new milk, with a little flour and nutmeg, into a saucepan with the boiled celery, serve it warm with pieces of toast, eat it with potatoes, and the painful ailment will soon yield. Such is the declaration of a physician who claims to have tried the experiment with uniform success. He adds that cold or damp never produces, but simply develops, the disease, of which acid blood is the primary and sustaining cause, and that while the blood is alkaline there can be neither rheumatism or gout. English statistics show that in one year (1876) 3640 persons died of rheumatism, and every case, it is claimed, might have been cured or prevented by the adoption of the remedy mentioned. At least two-thirds of the cases named heart disease are ascribed to rheumatism and its agonizing ally, gout.

A New York paper gives the following figures relating to electrical development: The capital invested in electric lighting is put at $325,000,000; invested in private plants, $200,000,000; number of arc lights in use, 250,000; capital invested in electric mining machinery, $100,000,000; invested in 500,000 stationary electric motors, $60,000,000. Concerns that use from 50 to 100 motors each are very numerous. It is estimated that more than 90 per cent of all the street and suburban roads are operated by electricity; number of trolley cars, 25,000; total miles, 12,000; combined capital of electrical railways, $700,000,000; total investment in electrical industry is placed at $1,410,000,000, covering a period of fifteen years; number of men estimated to be employed in electrical industries, 2,500,000.

One feels chilly when lying down because nature takes that time to give the heart rest, and that organ consequently makes ten strokes less a minute than when one is in an upright posture. Multiply that by sixty minutes, and it is six hundred strokes. Therefore in eight hours spent in lying down the heart is saved nearly five thousand strokes, and as the heart pumps six ounces of blood with each stroke it lifts thirty thousand ounces less of blood in a night of eight hours spent in bed than when one is in an upright position. As the blood flows so much more slowly through the veins when one is lying down, one must supply then with extra coverings the warmth usually furnished by circulation.—Harper's Bazar.

To distinguish between iron and steel tools, quickly place the tool upon a stone and drop upon it some diluted nitric acid (four parts of water to one of acid). If the tool remains clear, it is of iron; if of steel, it will show a black spot where touched with the acid. These spots can be easily rubbed off.

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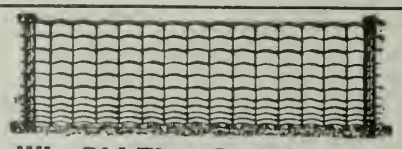

Why Did They Do It?

George H. Curtis, farmer, lives 2½ miles from Adrian. Eight years ago put up Page fence along the highway. This spring he took it down and replaced it with a Page of finer mesh to match his elegant dwelling. Three times he was offered half price for the old fence, by as many different farmers, who had seen it in service all that time.
See picture in Hustler.

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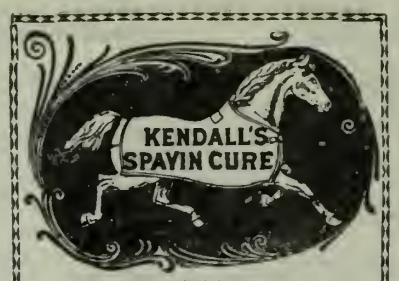

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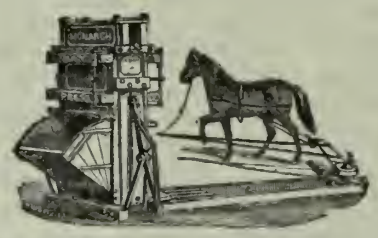

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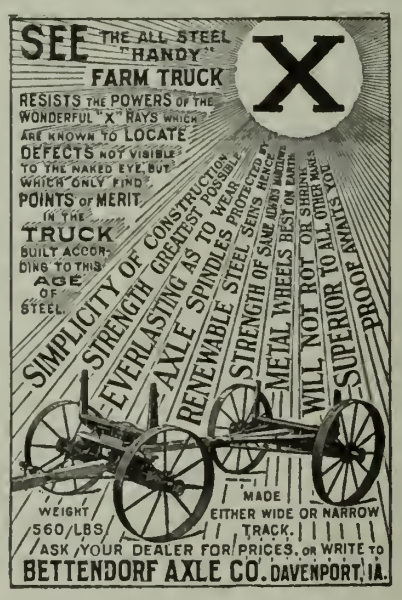

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Owing to old age and inability to work, I would now sell a half interest in two or three Navel Orange Groves, near town, at much less than their value and on very easy terms to the right kind of a younger man, to work and manage them. An unequaled opportunity for an industrious man to secure a competence without risk. Address
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Mysteries in Science.

What we do know is so little in comparison with that which baffles us, that the pride of man is humbled when he contemplates the fact. Here before us is a white pine tree in which the leading shoot that forms the trunk ultimately goes so straight upwardly that a plumb line can show no deviation from the perpendicular, while the lateral branches push out at a right angle with the stem. The power which directs these different directions is wholly unknown, and then note how this direction varies in different trees. While the leader in a Norway spruce is directed as truly perpendicular as the white pine, the lateral branches are at an acute angle—and the angle of nearly the same degree in all the individuals of the species. If we then compare the angular divergence with other species, we find that most have a plan of their own, which is followed through all the individuals of the species,—nearly all, for "never" is a word unknown to nature.

Of the atmosphere around us we know scarcely nothing. In other eyes than ours it would look like a huge aquarium in which myriads of forms of plants and animals are floating, while man would look like a little streak of black sand strewn along the bottom. Even the elements of which this atmospheric sea is composed are in a measure unknown, judging by discoveries continually made. We had thought we knew, and that oxygen, hydrogen, nitrogen and carbonic acid gases alone constructed it—but now we have found another, which has been named argon. Once we had concluded that hydrogen was the mother of all the other gases. It looks as if argon was, in the new light, but then even argon may have to go.—Thomas Meehan.

Mountain Ranges.

The origin of what is termed the "American theory" of the formation of mountain ranges is largely due to Prof. le Conte of Berkeley, at the State University. It is known as the contraction theory, which assumes that the earth was once an incandescent ball, now cooling, a coolness which compels yielding along its lines of weakness. An interesting investigation of the phenomenon of mountains has led to the opinion that they are born of sea margin deposits, observation showing that existing off-shore deposits are coarse at the top shading down to that which is fine by the same law as that marked in the structure of mountains, but the enormous mountainous deposits would, it is argued, have been possible only where there was a corresponding subsidence of sea bottom.

That the earth sinks by loading and rises by unloading is illustrated by the Colorado plateau. Originally 20,000 feet high, 12,000 feet have been removed by erosion, which has caused the remaining 8,000 feet to rise above the general level. It is claimed to be proved that the cosmic behavior of the earth is that of a rigid solid—that as a solid globe of glass 6 feet in diameter will change shape by the pressure of its own weight the earth does the same. The earth, however, not being homogeneous, accounts for its radical contraction being in ridges.

THE new highway is a gutter steel track one-fourth of an inch thick, five inches wide, flat on the bottom, with sides half an inch high, then extending outward 1½ inches, then down 1½ inches. It is spiked to a longitudinal timber laid on cross ties. No spike heads are on the surface, and the track is perfectly smooth. The track is laid 4 feet 8½ inches from center to center—the standard gauge of all wagons and railroad cars." The middle and sides are filled in with stone—in fact, is a macadamized road with steel tracks for the wagon wheels. On this steel track one horse will draw 20 times as much as on a dirt road. Freight can be hauled on a steel track road for less than half average charge on lateral roads. This means an economic revolution. The practice of all trunk lines, in the language of one of the highest railroad officials in the nation, is to charge "all that the traffic will bear," to meet the fierce competition of rival routes to the seaboard, and the freight along lateral roads is charged enough more to make on the whole a satisfactory profit.

An Unprecedented Gain in Weight.

A TRAINED NURSE GAINED FIFTY-THREE POUNDS BY USING A NERVE FOOD.

One of the Most Remarkable Results on Record.

From the Gazette, Yonkers, N. Y.

"I don't look much like a living skeleton now, do I? And yet two years ago I weighed just seventy-two pounds," said Mrs. J. W. Coffey of 55 Warburton Avenue, Yonkers, N. Y., to a reporter. And we agreed with her, for she certainly looked anything but a living skeleton, but rather bore the appearance of a plump and attractive lady in excellent health and spirits. Continuing, she said:

"I had lost my appetite and was wasting away in flesh, losing some fifty pounds in a few months. Doctors said I was threatened with consumption. I was under what was regarded as first-class medical treatment, but it had apparently little or no effect, for I kept getting worse until I was so weak that I could not attend to my household duties and could hardly walk. My husband and everybody who saw me thought surely that I would die, and there seemed no help for me.

"Tonics and stimulants and medicines all seemed useless, and I grew worse and worse until at last I resolved to seek some new remedy—one entirely out of the usual line of nauseous drugs and doses of stuff which seemed to take away what little relish I might perhaps otherwise have had for food. A friend told me of some wonderful cures effected by Dr. Williams' Pink Pills for Pale People and I bought a box. The effect from their use was noticeable from the first and soon appeared almost miraculous, for it seemed pretty nearly like the raising of one from the dead.

"I soon commenced to eat, something I had scarcely done before for weeks, and soon began to gain in flesh and strength. I went one day to the doctor's office and he was surprised at the change in me for the better. I had to confess that I had been taking the pills, and he was broad-minded enough to advise me to continue what was evidently doing me so much good. I took, in all, six boxes, and increased in weight from 72 to 125 pounds, which is my regular and normal weight."

"Are you sure the cure is permanent?"

"Well, yes. My work is that of a trained nurse, which means, as you probably know, irregular hours and at times great exhaustion. During the two years since my recovery I have had many engagements, and through them all have continued in good health. I take pleasure in bearing testimony to the remarkable power of this great medical discovery. I know of other cures effected by it. A friend of mine suffered greatly at her monthly periods. One box relieved and three boxes cured her. But I know of no case equal to mine, for my situation was critical, desperate and almost hopeless."

Mrs. Coffey has lived in Yonkers for sixteen years, and for twelve years has followed the business of attending the sick, excepting only the period of her illness. She has hundreds of acquaintances and friends who know her to be capable and trustworthy. Many of them know how very ill she was and how remarkable was her recovery. The pills have a large sale in Yonkers and Westchester County, which will be greatly increased as their merits become better known, for they seem to be one of the medical marvels of the age.

Dr. Williams' Pink Pills contain, in a condensed form, all the elements necessary to give new life and richness to the blood and restore shattered nerves. They are an unfailing specific for such diseases as locomotor ataxia, partial paralysis, St. Vitus' dance, sciatica, neuralgia, rheumatism, nervous headache, the after effect of la grippe, palpitation of the heart, pale and sallow complexions, all forms of weakness either in male or female. Pink Pills are sold by all dealers, or will be sent postpaid on receipt of price, 50 cents a box, or six boxes for $2.50—(they are never sold in bulk or by the 100) by addressing Dr. Williams' Medicine Company, Schenectady, N. Y.

Horse Owners! Try GOMBAULT'S Caustic Balsam

A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from **Horses** and **Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

Every bottle sold is warranted to give satisfaction. Price **$1.50** per bottle. Sold by druggists, or sent by express, **charges paid,** with full directions for its use. Send for descriptive circulars.

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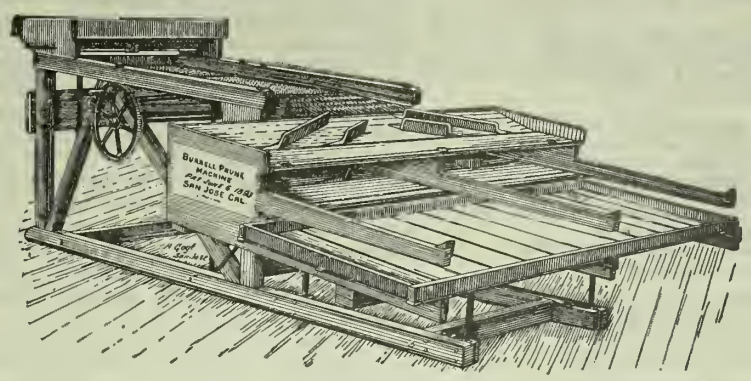

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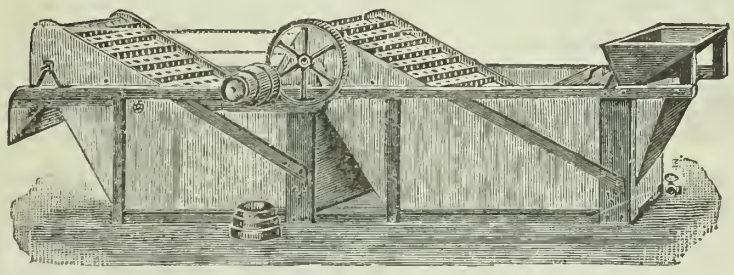

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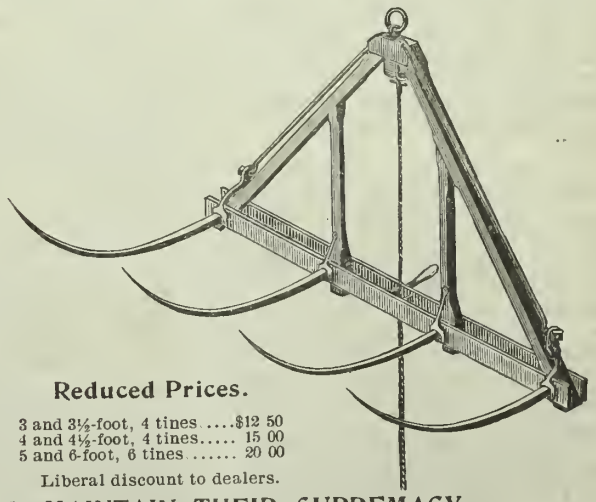

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Reduced Prices.

3 and 3½-foot, 4 tines $12 50
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Liberal discount to dealers.

THEY STILL MAINTAIN THEIR SUPREMACY

For Lightness, Strength and Durability. No pains are spared to make them perfect in every particular.

THE PRICES HAVE BEEN REDUCED TO SUIT THE HARD TIMES.

Every Farmer should have at least one of these Forks.

We also manufacture **Centrifugal Pumps and Compound Steam Engines;** and in the near future will place upon the market **OIL MOTORS** of latest design and greatest economy and efficiency.

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HAND CLEANERS FOR FARMERS' USE.

M. O'BRIEN, Agent, 509-513 Mission St. Write for Circulars. San Francisco, Cal.

THE HOME CIRCLE.

His Mother's Songs.

Beneath the hot midsummer sun
The men had marched all day;
And now beside a rippling stream
Upon the grass they lay.

Tiring of games and idle jests,
As swept the hours along,
They called to one who mused apart,
"Come, friend, give us a song."

"I fear I cannot please," he said;
"The only songs I know
Are those my mother used to sing
For me long years ago."

"Sing one of those," a rough voice cried,
"There's none but true men here;
To every mother's son of us
A mother's songs are dear."

Then sweetly rose the singer's voice
Amid unwonted calm,
"Am I soldier of the cross,
A follower of the lamb?

"And shall I fear to own his cause?"—
The very stream was stilled,
And hearts that never throbbed with fear
With tender thoughts were filled.

Ended the song the singer said,
As to his feet he rose,
"Thanks to you all, my friends—good night;
God grant us sweet repose."

"Sing us one more," the captain begged;
The soldier bent his head;
Then, glancing 'round, with smiling lips,
"You'd join with me," he said.

"We'll sing this old familiar air,
Sweet as the bugle call,
'All hail the power of Jesus' name,
Let angels prostrate fall.'"

Ah! wondrous was the old tune's spell,
As on the singer sang.
Man after man fell into line,
And loud the voices rang!

The songs are done, the camp is still,
Naught but the stream is heard;
But ah! the depths of every soul
By those old hymns are stirred.

And up from many a bearded lip,
In whispers soft and low,
Rises the prayer the mother taught
The boy long years ago.

—Chicago Inter Ocean.

Getting Acquainted With the Country.

"Mother, tell me a story," and Harold threw himself at full length on the piazza floor and looked up at his mother with listless eyes. He had been three whole days in the country and was getting tired of it and wanted to be amused.

"Have you been out to see the calves, Harold?"

"Yes, the pigs and the hens, and down to the pasture to see the sheep. They are all stupid. I thought the country was going to be prime fun, and it is—awful—poky." He yawned and crossed his arms above his head, "I wish there was a boy here to play with."

"I wish so, too, Harold." Mrs. Haines looked down at him with an expression of perplexity on her face. She had been brought up in the country, and loved it much better than the city, and she wished her boy to feel the same. He was such a manly fellow and of such inquiring, sympathetic nature that she was sure he would feel just as she did if only he could be brought into touch with the things around him.

"Have you been down to the woods and along the brook?" she asked.

"Yes; I took my rod and tried to catch some fish, but they wouldn't bite. Uncle Will says I had better wait for a cloudy day."

Mrs. Haines knit her brows thoughtfully.

"See here, Harold," she said, her face brightening with sudden inspiration, "are you willing to help me do something—even if it is considerable trouble and takes a good deal of your time?"

"Why, of course, mother," sitting up with interest, "that's just what's the matter, I've got more time than I know what to do with."

"Good! You remember I've told you how interested I used to be in birds and insects and plants when I was a girl on the farm. I studied about them and watched them until I got to be quite a naturalist. That was quite a good many years ago, but now I am back here I feel as though I would like to take it up again. But I cannot move about as briskly as I could then, and my eyes are not quite as good. I shall need an assistant with nimble feet and bright eyes. Will the job suit you?"

"Indeed it will," cried Harold, heartily. He was on his feet now and all the listlessness was gone from his face. "If I can find some of the queer things you've told about, mother, it'll be no end jolly. When shall we begin?"

"Not to-day. I have all these letters to answer. But I'll tell you what. Suppose you take this notebook and walk along the brook and through the woods and back by that pasture where we saw the bluejays yesterday. I would like to know how many of my old friends are still in the neighborhood. Do you know many of the birds by name?"

"I know the crows and bluejays and robins and—and—I guess that's all," replied Harold, doubtfully, "and, oh, yes! I know hens and turkeys."

"Well, suppose you watch everything closely; birds and insects and whatever you find that is curious. When you come back you can tell me all about them, and I think I may be able to recognize them from your description. Make notes in the book so you can remember. I will go with you to-morrow."

"All right! Good-bye, mother. I'll be back in half an hour," and disdaining the steps Harold sprang over the piazza railing and hurried away, his own bright self once more, now that there was something definite in view.

There was a tender, unfathomable smile on Mrs. Haines' face as she turned back to her writing. Nor did she seem at all discomposed when a half hour, an hour, two hours, went by and Harold did not return. Indeed, it seemed almost as though that puzzling expression on her face deepened and her eyes grew brighter as she waited.

It was well on in the afternoon when Harold returned—breathless, glowing, excited.

"Oh, say, mother!" he called, before he reached the piazza, "what are those jolly clown birds with bright eyes and funny tails who turn somersaults in the air and do all sorts of fool tricks?"

"Bobolinks, I suppose you mean," answered his mother, trying in vain to keep her face calm.

"Well, they're the biggest show out. Half a dozen of them just spread themselves to entertain me; and I tell you, mother, I almost had to stuff a handkerchief in my mouth. They're regular born clowns."

Mrs. Haines laughed and began to gather up her letters. When she had put them away she came and sat down on the step beside Harold.

"Now I will look at the note book," she said.

The boy flushed and looked embarrassed.

"Why, I—I—really I took no notes for a while, mother—about dragon flies and crows and a funny little red squirrel and about a fat, scolding, brown bird who wouldn't help his mate build a nest. And then I run across those clown birds—bobolinks, I mean—and forgot all about it. I expect the book is down in the field somewhere. I'll go and find it," and he snatched up his cap from the piazza floor and hurried away in search of the forgotten note book. Mrs. Haines watched him with mirthful eyes until he disappeared; then she entered the house and hunted up an old collecting box and a microscope and some thick shoes for the morrow's expedition. And it is needless to add that Harold did not find any more fault with the country.

The Usual Question.—Sprockitt: "I don't believe that Spencer is much of a bicyclist." Sprint: "Why not?" Sprockitt: "When I told him I had a wheel, he did not ask me whose make it was."—Brooklyn Life.

Wholly Distinct: "What's the difference between your sacred and your secular concert programme? I can't see any." "Why, the sacred concerts are given on Sunday!"—Selected.

A Mission.

Small as I am, I've a mission below—
A mission that widens, and grows as I grow,
'Tis to let alone cider and brandy and gin;
'Tis to keep well away from these potions of sin.

'Tis to make myself noble and manly and true;
'Tis to touch no tobacco, not smoke and not chew
That unhealthy weed that true women detest,
And all people know is a filthy old pest.

'Tis to say unto all what I say unto you,
Let these things alone, if you would be true,
They are foes to all virtue, and lead down to shame,
Shun drink and tobacco, and keep your good name.

Cold water that comes from the well is my drink,
The healthiest, purest and sweetest, I think;
It never makes drunkards, it never brings woe—
I'll praise it and drink it wherever I go.

—Ella Wheeler Wilcox.

Gems.

Discretion in speech is more than eloquence.—Lord Bacon.

As you learn, teach; as you get, give; as you receive, distribute.—Spurgeon.

It is exercise alone that supports the spirits and keeps the mind in vigor.—Cicero.

Patience cannot remove, but it can always dignify and alleviate misfortune.—Sterne.

A noble nature can alone attract the noble and alone knows how to retain them.—Goethe.

There is only one real failure in life possible, and that is not to be true to the best one knows.—Farrar.

There is nothing so minute or inconsiderate that I would not rather know it than not.—Samuel Johnson.

The most certain sign of being born with great qualities is to be born without envy.—La Rochefoucauld.

Be your character what it will, it will be known, and nobody will take it upon your word.—Chesterfield.

I have watched a good many brooding hens, but I never saw one facilitate the hatching process by pecking the shell. The chick on the inside will get out if he is worth it.—Parkhurst.

Man, in society, is like a flower blown in its native bud. It is there only that his faculties, expanded in full bloom, shine out; there only reach their proper use.—William Cowper.

Who is a true man? He who does the truth, and never holds a principle on which he is not prepared in any hour to act, and in any hour to risk the consequences of holding it.—Thomas Carlyle.

More men are injured by having things made easy for them than by having their path beset with difficulties, for it encourages them to stay themselves on circumstances, whereas their supreme reliance needs to be on their own personal stuff.—Parkhurst.

For the Woman.

Woman—God bless her, the queen of all creation.

Woman—The tyrant we love, the friend we trust.

Woman—The sweetest creature the Lord ever made.

Woman—The source of help, happiness and heaven.

Woman—She needs no eulogy; she speaks for herself.

Woman—Once there was a woman, sir, and here she is.

Woman—A creature "nobly planned, to warn, to comfort and command."

Woman—The fairest work of the great Author; the edition is large and no man should be without a copy.

"Mike," said the superintendent, "there is a dead dog reported in the alley between Illinois and Meridian streets. I want you to look after its disposition." An hour later the intelligent officer telephoned, "I have inquired about the dog, and find that he had a very savage disposition."—Indianapolis Journal.

Fashion Notes.

Moire is again in demand. This beautiful fabric is the most unstaple of all handsome materials. One month it will be simply the rage, the next it may be flung on to bargain counters to be gotten rid of at any price. No sooner is it entirely out of market, than up it pops again, like a jack-in-the-box. Just now it is in good demand, and certainly makes the most elegant skirts to be worn with fancy waists.

Knife-plaiting has come around again. Narrow ruffles of this sort appear on skirts, up and down the edges of the box-plaits on the waists, and the batiste blouse has a basque made of a double-frill of knife-plaiting.

New sleeves show the contour of the arm nearly to the shoulder, where some width is given by the addition of ruffles and bows and occasionally a pretty draping of stuff. The close part of the sleeve is not always left plain, but arranged in a various number of complicated ways. Perhaps this is out of consideration for the thin-armed woman who has reveled in large sleeves so long.

A pretty and stylish cape is made of broadcloth. The edges are stitched with a band of the material, and wide points, stitched and finished with buttons, run back from either edge of the front over the fabric. The collar is high and rolling and finished with points stitched down.

A handsome finish for a bodice is a wide collar rolling back to the tops of the sleeves and extending to the bust in front, and in a deep curve over the shoulders at the back. The points in front are finished with very large, handsome buttons. There is a vest of contrasting fabric and a full ruffle of hemstitched lawn from the velvet crush collar down to the bust.

A handsome cape is made of black velvet in straight breadths, sewed to a fancy yoke of puffed satin. The velvet is box-plaited, and the outside of each box plait has a design in embroidery. Around the edge of the yoke is sewed a cape-shaped section about five inches wide in front and running to a point on either shoulder. These points cover half the length of the velvet. A collar of the same shape rolls out from the neck. In the front there is a wide scarf of Dresden ribbon, the lower ends of which are finished with a frill of lace.

Tan, in all the varying shades, is still a popular color for canvas gowns, and made over pale blue silk, with a wide black satin belt, and a vest front made of a black Madras silk handkerchief, covered with a cone pattern in blue, green and red, the gown is stunning. Two ends of the handkerchief, trimmed with black lace, fall below the belt.

Pink is the prevailing color in much of the summer millinery, and pink straw hats, pink roses and pink tulle abound. Another popular color is green, in all the divers shades imaginable, and pale lime green straw trimmed with blue or purple is one of the picturesque effects commonly seen this season.

A dressy little wrap is made of side-plaited lace gathered into a narrow lined yoke. This yoke is of passemen-

Awarded
Highest Honors—World's Fair
Gold Medal, Midwinter Fair.
DR. PRICE'S CREAM BAKING POWDER
Most Perfect Made.
40 Years the Standard.

terie. There are wide epaulettes of passementerie, which extend down the front at either side, and where the yoke and plaitings join the seam is almost concealed by rosettes of ribbon set close together. The very high full collar is of plaited silk muslin, and the same plaiting trims the deep epaulettes.

In a matter of neck dressing for athletics, or as the accompaniment to tailor-made gowns, one cannot do better than to follow the reigning fashions for men.

Curious Facts.

Probably the oldest timber in the world which has been subjected to the use of man is found in the ancient temples of Egypt, in connection with stonework, which is known to be at least four thousand years old. This, the only wood used in the construction of the temples, is in the form of ties, holding the end of one stem to another.

A railroad man has compiled statistics which show that there is only one railroad passenger killed out of every 1,985,153 carried on the railways, and that for every 183,822 carried only one is likely to be injured. He bases his calculations on the fatalities and casualties on railroads during the last twelve years. His figures further show that a man's chances are such that he would have to travel 4,406,659 miles before getting hurt, and go 47,588,966 miles before being killed.

In China the hen is kept constantly busy. When not engaged in hatching her own brood she is compelled to hatch fish eggs. The spawn of fish are placed in an egg shell, which is hermetically sealed and placed under the unsuspecting hen. After some days the egg shell is removed and carefully broken, and the spawn, which has been warmed into life, is emptied into a shallow pool well warmed by the sun. Here the minnows that soon develop are nursed until strong enough to be turned into a lake or stream.

Pleasantries.

First Moth: "How are the children?" Second Moth: "All well, thank you. We were a little worried about Flossie this morning. She ate too many fresh camphor balls. Somehow, I haven't the heart to deny the dears the delicacies of the season."—New York Press.

"For my part," remarked Mrs. Pilkington, decisively, "I can't see why people are so anxious to make silver free. I should much rather have free gold myself." And she resumed work on her embroidery with an air of having said something that even Mr. Pilkington couldn't controvert. — Exchange.

"Mr. Moddlin," said that gentleman's wife, in a horrified tone, "you are drunk."

"Guesh I musht be," assented Moddlin, cheerfully, "or else I wouldn't (hic) let you shee me in this (hic) c'odshun."

"Well, you may say what you please about our cooking class, Harold, but there is one man who knows how to appreciate it."

"Our family physician, I suppose; but he only looks at it from a professional voint of view."

"I thought Miss M. taught you in kindergarten not to tell the bad things about your little friends," I said, as my little daughter was making some disparaging remarks about a little playmate. "Yes, she did teach us that," was the frank reply; "but we didn't learn it hardly at all: we didn't seem to pay any attention to it."—G. S. S.

Tablecloths should be so ironed that the folds or creases may be as far as possible in the lengthwise direction. The best effect is that produced by only one fold through the center. This, however, necessitates considerable room in the linen closet. Many housekeepers have for each tablecloth a stick as long as the cloth is wide when folded through the center lengthwise; these sticks, which are about the thickness of a broom-handle, are covered with several folds of flannel and then with muslin. When the cloth has been folded and ironed well on each side, one end of it is pinned to the covered stick, and it is then rolled up loosely, so as not to crease it; it is then slipped into a long, narrow bag and laid in the linen closet.

"A STRIKING ILLUSTRATION of the influence of fatigue upon the nervous system," says *Modern Medicine*, "is afforded by an experiment conducted by an Italian physician some months ago. Twenty-four bicycle riders, who had ridden 32 miles in two hours and a quarter were examined with reference to their hearing, and it was in nearly every instance found to be defective. After two hours' rest the hearing had become normal in most of them."

DOMESTIC ECONOMY.

Kitchen Lore.

GINGER SNAPS.—One pint of molasses, one teacupful of sugar one teaspoonful of ginger, one of allspice, one cup of butter, five cups of flour. Roll thin and cut into small cakes. Bake in quick oven.

CREAMED SHRIMPS.— Mix the yolks of two eggs with a teaspoonful of anchovy sauce and a gill of cream. Lay in some bottled shrimps, allow them to heat, not allowing the eggs to curdle, and pour over strips of toast.

PARSNIP FRITTERS.—Boil parsnips till tender, cool and remove pith and skin; mash fine. To every teacupful add a beaten egg; add flour to thicken and salt to taste; a sprinkle of sugar improves them. Drop into boiling lard and brown. These may also be baked like potato cakes.

CHOCOLATE ICING.—Grate two ounces of chocolate and set over hot water until melted. When perfectly smooth cook together one cupful of granulated sugar and one-half cupful of water until it hairs. Pour this in a fine stream over the melted chocolate, stirring and beating until the mixture begins to thicken. Use immediately.

POTATO OMELET.—One cup of mashed potatoes, three eggs, yolks and whites beaten separately, a scant teaspoonful of salt, a dash of white pepper, half cup sweet milk, heaping teaspoonful of flour. Heat and grease a large saucepan or frying pan and pour the mixture into it. Keep on top of stove at moderate heat till set and browned on under side, then set on the rack in the oven to brown on top.

BANANA SALAD.—Put into a small bowl or saucepan the yolk of one egg, one saltspoonful salt and half a teaspoonful powdered sugar. Stir in oil slowly till one cup has been used, adding two tablespoonfuls lemon juice as needed to thin it. Color a teaspoonful of the dressing with a tiny bit of prepared green color paste, and then stir this into the whole, using only enough to give a pale tint of green. Just before serving add two tablespoonfuls thick wipped cream. Cut four bananas twice lengthwise and then each piece into quarters. Put two small lettuce leaves together, lay several pieces of banana on the lettuce and cover with the dressing. Arrange these portions on a large platter and garnish with the tiny center leaves.

CUSTARD PIE.—One generous pint of fresh, sweet milk, two eggs, three-fourths of a cupful of sugar, a little salt, a rounding teaspoonful of flour. Beat the eggs, salt, sugar and flour together. Add the milk. Do not heat the milk before adding it to the eggs, sugar, etc. Bake in a deep plate. A tablespoonful of sweet cream added to the custard improves it, but it is very good without it. Have the oven very hot when the pie is first put in, so that the custard will brown and the crust will not fall over. The custard must brown or the pie will not look or taste so rich. If your oven does not brown quickly (we find there is a great difference in ovens), beat the yolks, and whites of the eggs of the sugar separately; beat the yolks of the eggs and sugar together, add the stiffly beaten whites, stir in lightly, next add the milk. In this way a light froth from the whites of the eggs rises to the top of the pie which browns quickly. After the first few minutes the oven should cool quite rapidly so that the pie will bake slowly at the last; it must never boil. Watch it carefully and take it from the oven the moment it is done. A custard pie which bakes so long that it "wheys off" is a failure. After the pie is taken from the oven grate nutmeg over the top. Sometimes, for a change, add a little cinnamon to the eggs and sugar before the pie is baked, but never put in the nutmeg till the pie is baked. There are several other ways of making custard pies which are very nice especially in winter and spring, if the supply of pumpkin and squash is gone. The rule given above for baking should be followed in all these recipes.

House-cleaning Hints.

The wise housekeeper cleans from the top toward the bottom. If the lower rooms are cleaned first, they will be more or less soiled later with the dust from the upper regions, which has an unpleasant habit of sifting through closed doors. The garret is the first part of the house which should receive attention, says an exchange.

According to the same principle, ceilings and walls should be the first part of each room to be renovated. It requires only a little common sense to see that the kalsomining of a ceiling after carpets have been laid or floors polished is apt to be disastrous to the carpets or floors.

Those parts of the house which are used as store rooms, such as attics and cellars, require particular attention. They need more soap and water, more quick lime and more dusting than the rest of the house to counteract the effect of lack of air and sunlight throughout the year. When the garret is to be cleaned, therefore, the hygienic housewife removes, if possible, everything from the room. Garments should be shaken vigorously in the air and hung out in the sunlight. Chests should be carried into the yard and dusted out with a cloth, dampened in a mild solution of carbolic acid. They should then be exposed to the sunlight until they are perfectly dry. As much as possible of the clothing should be disposed of and that which remains should be wrapped in paper and returned to the chests. The lid of each chest should have pasted or tacked inside a list of its contents.

While the contents of the garret are being freshened in the back yard or on the roof, the store room itself should be thoroughly cleaned. If it is plastered, a coat of whitewash will do wonders toward clearing the atmosphere. If it is merely lathed, the laths should be swept and dusted with a cloth wrung out in a solution of carbolic acid. The floor should be treated in the same way. Then when the room is dry its contents should be returned to it and placed as neatly as possible in a well regulated attic.

The bedrooms, which should be taken in order, and not all at once, should be examined for useless or decrepit furniture. The former should be disposed of in whatever way the thrift of the owner may decide. The disabled furniture should be sent to a repairer's.

If carpets are used in the bedrooms—which is something hygienists forbid—they should be taken up and not cleaned on the floor. They may be sent to the renovating establishment or restored to their original state at home. A thorough shaking and beating prepares them for the removal of stains. Grease spots may be removed by chloroform. An old-fashioned, but effective method of cleaning an entire carpet which has grown dingy is to spread it on the floor, sprinkle it with pared and grated raw potatoes and to rub these over it with a stiff new broom. When the potatoes are removed the carpet should be allowed to dry thoroughly.

Another . Big . . Lot .

Of ladies' russet or tan Oxfords, 3 to 7, standard width, round toes, not real pointed, not quite as good a shoe as the last, and we make the price

45 CENTS.

Child's oxfords, tan, 5 to 8	45c.
Infant's tan shoes, 3 to 5½	25c.
Infant's tan shoes, 3 to 6	45c.
Infant's black shoes, 3 to 6	35c.
Infant's double sole, 5, 5½, narrow	55c.
Child's stout shoes, 4 to 8	60c.
Child's heavy goat, heels, 5 to 8½	65c.
Shoes for weak ankle, 3 to 8	$1.25, $1.50.

Black Oxfords.

Ladies' Mayflower—A neat, stylish Oxford, both square and opera toe (not real pointed), 3 to 6, few 7, all standard width, no narrow ones, no extra wide; you'll be delighted with them—

55 CENTS.

Postage 15c. to 18c., as to size.

The above shoes can be seen on bargain tables all over town at $1.50 a pair.

Russet hose to match russet shoes, at 10c., 14c., 23c.

Button Shoes

Are a little out of fashion and have to go at any price.

Boys' button shoes, 5, 5½, 6	$1.15
Boys' finer button shoes, 5, 5½, 6	1.35
Men's finest button shoes, 5 to 10	1.37
Men's laco or congress shoes, closing	1.35
Men's higher grade Sunday shoes	2.00

ASK for our Complete List of shoes and other bargains; we should be glad to send it to you without cost. It tells about things to eat, to wear, and to use in every calling of life. You can save an average of 25 per cent, and on many things 100 per cent, by paying cash, and that saving would make you rich in a little while.

Underwear.

Sleeveless for ladies	10c., 22c., 39c.
Long sleeves	19c., 22c., 29c., 39c.
Stout merino, gray or white	39c.

Children's reduced 25 per cent.

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SMITHS CASH STORE,

414, 416, 418 Front St., S. F., Cal.

Best Patterns at a Low Price.

The RURAL PRESS has arranged with a leading New York pattern house to supply its readers with patterns in the latest fashion at prices very far below the ordinary retail cost. These patterns sell as high as 50 and 25 cents elsewhere. The RURAL is enabled to furnish them to its readers at 10 cents apiece, postpaid, for all sizes and designs. The patterns are handsomely put up in a separate envelope containing illustrations and descriptions and mailed for 10 cents each to those who order them through this office. Address Pattern Department, RURAL PRESS, 220 Market street, San Francisco, giving number and size of pattern wanted.

A BECOMING NEGLIGEE.

943-Kadijah House Jacket.

Sizes for 34, 36, 38 and 40 Inches Bust Measure.

This pretty negligee is made of figured blue India silk, the full front of plain silk, and the trimmings, blue ribbons and wide plat Valenciennes lace. Soft cashmere and challies are also very pretty for these jackets, and for hot weather dainty lawns and dimities are used. These jackets may be worn with various skirts or with skirts made of the same material as the jacket. These skirts are not quite as full as dress skirts, and yet are made fuller than petticoats. They may be trimmed with ruffles of lace to match the jacket. Our model is fitted in the black with the usual seams, and has a Watteau fold in the center. A fitted lining crosses the front and holds the back and full front in place.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

FOR SUMMER AFTERNOONS.

960—Delicia Waist.

Sizes for 14 and 16 Years.

This charming gown is made of light silk-striped challie, combined with batiste. The cape fichu is made of the latter material, also the long tabs on the skirt which suggest fichu ends. The skirt is the "Amity," which is described below. The corsage, the "Delicia," is slightly fulled over a fitted lining, and the fichu is a deep round collar in the back. The sashes which fall at the side of the skirt are included in the waist pattern. The model is commended for all light silks, fine organdies and lawns, also for light-weight woolens. The fichu may be of some contrasting material and is made adjustable, so that various changes may be made.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

959—Amity Skirt.

Sizes for 14 and 16 Years.

A graceful model, having eight gores and measuring nearly five yards at the foot. It may be lined or finished with a deep hem, but should have no interlining or stiffening. Any of the popular silk, woolen or cotton fabrics may be chosen for this model and can be worn with any style of waist or coat.

A special illustration and full directions about the pattern will be found on the envelope in which it is inclosed.

A FANCY TAFFETA WAIST.

953—Eretria Blouse-Waist.

Sizes 34, 36, 38 and 40 Inches Bust Measure.

Fancy waists still find favor for both dressy and general wear, according to the materials selected. Our model is quite simple, and depends for its attractiveness upon its trim fit and the beauty and becomingness of the silk. It is suited to all the pretty striped silks, and also to every description of figured India or taffeta silk. A fitted lining holds the fulness of both back and front in place. The finish of the neck and the shirring in front are especially effective and becoming. This is also a good model for washable fabrics, and can be completed with linen collar and cuffs.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

FOR SUMMER FABRICS.

952—Ariola Frock.

Sizes for 8 and 10 Years.

The absence of elaborate shoulder trimming on children's frocks this season renders them very attractive, because of their dainty simplicity. The model illustrated is of India silk. The skirt is gored, and it may be lined with percaline, or finished with a deep hem. The back of the corsage is like the front, except, of course, that the fullness is drawn down smoothly, and a fitted lining holds the fullness in place. The yoke can be made of velvet, plain silk, or batiste, and trimmed with a frill of embroidery or lace. The sash may be of the material itself or of ribbon.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

Breeders' Directory.

Six lines or less in this directory at 50c per line per month.

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F. H. BURKE, 626 Market St., S. F. Al Prize Holsteins; Grade Milch Cows. Fine Pigs.

JERSEYS—The best A. J. C. C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

BULLS—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

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526 CALIFORNIA STREET.

For the half year ending June 30, 1896, a dividend has been declared at the rate of four and twenty six hundredths (4.26) per cent per annum on Term deposits, and three and fifty-five hundredths (3.55) per cent per annum on Ordinary deposits, free of taxes, payable on and after Wednesday, July 1, 1896. GEO. TOURNY, Secretary.

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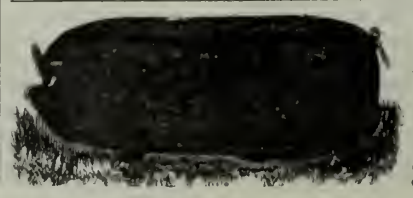

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We have several fine litters coming on. Book your orders for choice pigs. Write for prices and get our circular.

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, July 15, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon while quotations are based on values current at the close. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	108,523	163,030	92,131
Wheat, ctls	73,087	117,613	395,151
Barley, ctls	18,029	31,869	82,214
Oats, ctls	15,162	20,470	15,175
Corn, ctls	1,082	2,752	3,132
Rye, ctls	285	285	2,147
Beans, sks	4,011	6,086	5,871
Potatoes, sks	16,914	21,093	25,315
Onions, sks	3,227	4,448	5,175
Hay, tons	2,301	3,108	5,073
Wool, balcs	1,198	2,254	4,397
Hops, bales	16	16	....

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	29,704	137,292	57,767
Wheat, ctls	17,712	67.231	774,531
Barley, ctls	1,420	4,400	18,210
Oats, ctls	....	544	1,240
Corn, ctls	27	851	1,138
Beans, sks	13	235	463
Hay, bales	550	1,197	1,509
Wool, lbs	....	....	....
Hops, lbs	1,504	1,654	1,216
Honey, cases	1	2	230
Potatoes, pkgs	289	605	590

Grain Freights and Charters.

Not much business reported in this line. Ship owners are in the main contending for higher figures than are obtainable, their views being about 30 shillings per ton for wheat in iron ships to Cork for orders. An iron ship of handy size arrived this week under charter and is now loading at 25 shillings to Cork for orders. Another iron ship arrived under wheat charter for same voyage at 27s. 6d. A fine schooner, with a carrying capacity of about 1000 tons, was engaged at private terms to load wheat for Australia.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive
1896.	47,658	37,429	252,476
1895.	32,402	1,521	372,028

Wheat.

During the past ten cereal years wheat exports from San Francisco and valuations for the same were as follows:

Season.	Centals.	Value.
1895-96	10,293,957	$10,629,629
1894-95	9,605,296	8,607,135
1893-94	8,966,268	9,449,612
1892-93	10,553,619	13,825,632
1891-92	13,092,364	22,089,728
1890-91	13,828,701	20,009,223
1889-90	13,704,333	17,986,701
1888-89	13,292,127	19,634,652
1887-88	8,773,887	13,075,008
1886-87	12,334,114	18,064,082

Of the 10,511,188 centals wheat received the past season, 448,533 centals were from Oregon and Washington, against 1,583,379 centals in previous season. Included in the total receipts of flour—1,417,071 barrels—there were received from Oregon and Washington 270,936 barrels, against 178,397 barrels in previous season. Total shipments of wheat and its equivalent in flour from this State for past year aggregate 657,841 short tons, with a valuation of $12,603,152. Vessels to the number of 174 were dispatched with wheat constituting the entire or main cargo.

The local wheat market has been devoid of excitement the current week, either for spot offerings or in the speculative field. There was a little firmness reported in Eastern and foreign centers, but it was not sufficient to disturb values to any very appreciable degree either here or abroad. Speculative values here kept within a cent fluctuation during the latter part of last and the early part of the current week, and as well may be inferred, quotations for immediate deliveries of actual wheat were not disturbed. Exporters have been proceeding very slowly, as is shown by the outward movement for the season to date—less than 200,000 centals—while for corresponding time last year over 1,000,000 centals had been forwarded. The heavy outward movement of July, last year, was mainly of the accumulations of the Fair wheat deal. It was necessary to hurry it to market to prevent weevils from destroying it. This year the carry-over stock was light, less than 150,000 tons, and with only a fair crop in this State this season, farmers have not been disposed to crowd offerings to sale very rapidly at existing low values, although prices are at a slightly higher range than they were a year ago. Market at close was quiet and barely steady.

California Milling	$1 00@1 10
Cal. No. 1 shipping, alongside	95@ 97½
Oregon Valley	95@1 00
Walla Walla Blue Stem	1 00@1 10
Walla Walla Club	95@1 00

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, 97½@98⅝c.

May, 1897, delivery, $1.02¼@1.02¾.

Wednesday, at regular noon session of Call Board, December wheat sold at 98⅜@ 68⅝c; May, ——

Flour.

There is no scarcity of supplies of either local or outside brands. Export trade is of fair proportions, but a greater demand could be easily accommodated. The market, while not particularly weak, has been more favorable to the buying than to the selling interest.

Superfine, lower grades	$2 25@ —
Superfine, good to choice	2 40@2 50
Country grades, extras	3 00@3 25
Choice and extra choice	3 25@3 50
Fancy brands, jobbing	3 50@3 75
Oregon, Bakers' extra	2 75@3 00
Walla Walla, Bakers' extra	2 75@3 00

Barley.

This market is not showing much activity. There are one or two ships at Port Costa taking New Brewing for England, but there is very little being done on local account. Little or nothing has been yet done in this season's Chevalier, and any quotations for the same at this date would be wholly nominal. Bright and heavy Chevalier, suitable for export, is very likely to receive attention at an early date at fairly profitable figures to the producer; but dark colored, light weight and foul cannot be depended on to bring more than prices for ordinary feed. Market for low-grade barley ruled quiet, although for stock suitable for tender on Call Board contracts, or which would pass inspection as No. 1 feed, values were tolerably well sustained.

Feed, No. 1 to choice	70 @—
Feed, fair to good	65 @67½
Brewing, No. 1 to choice new	75 @77½

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, 69¾@70½c; May, 1897, delivery, ——@——c.

Wednesday at regular noon session of the Call Board December feed was offered at 70⅝c, with 70½c bid.

Oats.

Arrivals from Oregon and Washington, the main sources of supply, are showing some decrease, and the quantity in warehouse here is not large. There are more than enough, however, of the ordinary run of offerings to accommodate the existing demand, and market for common qualities is devoid of firmness. Choice Surprise and fancy White oats are scarce and incline in sellers' favor.

White Oats, fancy feed	92½@— —
White, good to choice	85 @ 90
White, poor to fair	77½@ 82½
Gray, common to choice	77½@ 82½
Milling	85 @ 87½
Surprise, good to choice	97½@1 02½

Corn.

Stocks in this center are mainly Large White, for which there is little demand at present. Large Yellow now here is mostly Eastern and is rather firmly held. Small Yellow is not in heavy stock, neither is it in active request.

Large White, good to choice	77½@ 82½
Large Yellow	92½@ 95
Small Yellow	95 @ 97½

Rye.

There is not much coming forward, but demand is insignificant, and free sales would be possible only at low prices.

Good to choice	72½@ 73¾

Buckwheat.

Business in this cereal is so lifeless at present that values are very poorly defined.

Good to choice	80 @ 95

Beans.

Stocks here and in the southern portion of the State are quite heavy. The demand is light, both on local and outside account. Holders are anxious to realize, and under the circumstances the market could not be otherwise than weak. Values are irregular, and quotations for most descriptions are more in accord with asking rates than with figures readily obtainable.

Pea, fair to good, 100 lbs	$1 20 @1 35
Small White, good to choice	1 00 @1 15
Lady Washington	75 @1 00
Butter, small	1 10 @1 25
Pinks	65 @ 80
Bayos, good to choice	85 @1 00
Reds	1 20 @1 30
Red Kidneys	1 25 @1 50
Limas, good to choice	2 25 @2 40
Black-eye Beans	1 25 @1 50

Dried Peas.

Recent offerings have been of small volume, but they have received very little attention. Buyers are few and indifferent about operating.

Green Peas, California	$1 15 @1 30
Niles Peas	1 20 @——

Wool.

While values for this product are still on a low plane, affording little encouragement to the producer, the market has presented a better tone during the past few weeks than for many months preceding. Scourers have purchased considerable wool lately, and a fair amount of business had been done in scoured stock on Eastern account. In addition some grease wools are going to the East by sailing vessel.

SPRING.

Humboldt and Mendocino	10 @12
Northern California free	7 @ 9
Northern defective	5½@ 7
San Joaquin Foothill, good to choice	6 @ 7½
San Joaquin, 12 months	4 @ 6½
San Joaquin and Southern, 6 months	4 @ 6
Nevada, as to condition	7 @ 9
Oregon Valley, select	9 @10½
Oregon Valley, low grade	8 @ 9½

Hops.

There is no evidence of any business of consequence being transacted in this center. Some inquiry for new hops is anticipated in the near future, but that bids will reach a very gratifying or specially remunerative figure to the producer is not considered probable. Stocks of old hops throughout the world are heavy. A few new of favorite marks have been contracted for to arrive at about 7c. The following is a New York review of the hop market there and elsewhere:

The volume of business is still very small. Brewers are well supplied and are very indifferent buyers, while exporters are getting so few orders that the demand from that source is of small importance. There does not, however, appear to be any occasion for changing values. Holdings here are not burdensome and the hops were secured at such a low cost that no one seems to fear carrying them over; at the same time business would be done on the basis of late quoted prices. The country is so well cleared that no further arrivals of importance are looked for. Nothing has occurred to change the outlook for the growing crop. Fine weather is bringing the vines along nicely in this State, and where proper care has been taken in cultivation the yards look exceedingly well. The total yield will be considerably below last year through plowing up and neglect of yards. Estimates of the entire crop of the Pacific coast are placed at about 120,000 bales—fully one-third less than last year. Present holdings are from 10,000 to 13,000 bales, mostly in California. Vermin are still reported in the English plantations, but frequent rains have made further improvement in the condition of the yards.

Fair to choice, 1895 crop	2 @4

Hides, Pelts and Tallow.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	7 @ 7½	6 @ 6½
Medium Steers, 48 to 56 lbs	6 @ 6½	5 @ 5½
Light Steers, under 48 lbs	— @ 5	— @ 4
Heavy Cow Hides, over 50 lbs.	5 @ 5½	4 @ 4½
Light Cow Hides, under 50 lbs.	— @ 5	— @ 4
Wet Salted Kip	— @ 5	— @ 4
Wet Salted Veal	— @ 6	— @ 5
Wet Salted Calf	7 @ 8	6 @ 7
Dry Hides, round lots, 9@10c	10½@11	8 @ 8½
Dry Kip and Veal, 11 to 16 lbs	8 @ 9	— @ 7
Dry Calf, under 4 lbs	— @15	— @10

Pelts, long wool, per skin	50 @60
Pelts, medium, per skin	40 @50
Pelts, short wool, per skin	20 @35
Pelts, shearling, per skin	10 @15
Deer Skins, best summer	— @30
Deer Skins, good medium	15 @25
Deer Skins, thin winter	7 @10
Elk Hides	8 @ 9
Tallow, good quality	3 @ 3¼
Tallow, No. 2	2½@ —
Goat Skins, perfect	20 @35
Goat Skins, damaged	10 @20
Kid Skins	5 @ —

Hay and Straw.

Hay receipts have aggregated tolerably large, and for other than choice wheat the market was devoid of firmness. Straw favored buyers.

NEW HAY.

Wheat	7 50@11 00
Wheat and Oat	6 50@ 8 50
Oat	5 00@ 7 50
Barley	6 00@ 7 50
Clover	5 00@ 7 00
Stock Hay	4 00@ 5 00
Alfalfa, first cutting	4 00@ 5 00

OLD HAY.

Wheat, fair to choice	8 00@11 50
Straw, ₱ bale	30@ 40

Millstuffs.

Market is amply stocked with most descriptions, and is in the main easy in tone.

Bran, ₱ ton	13 50@14 50
Middlings	15 50@17 50
Barley, Rolled	15 50@16 00
Cornmeal	19 50@20 00
Cracked Corn	20 50@21 00

Seeds.

There is little doing in any variety. Mustard seed crop is not turning out well, and market is likely to be firmer than last season.

	Per ctl.
Mustard, Yellow	1 40@1 60
Mustard, Trieste Seed	2 50@2 65
Mustard, Wild Brown	1 50@1 75
Flax	1 70@1 75
	Per lb.
Canary	2½@2¾
Rape	2 @2¼
Hemp	3¼@3½
Alfalfa, Utah	7 @7½

Potatoes.

Common qualities from Sacramento river are in heavy stock. Choice to fancy Burbanks are not plentiful and command good prices.

IN SACKS.

Early Rose, ₱ cental	35@ 50
Peerless	50@ 75
Garnet Chile	70@ 80
Burbanks	35@1 00

IN BOXES.

Early Rose, ₱ cental	35@ 60
Peerless River	50@ 75
Burbanks, River	40@1 00
Burbanks, San Leandro	1 00@1 25

Honey.

With this year's crop in California almost a total failure, there will be little chance for business this season. Prices now existing are too high for any export trade.

White Comb, 1-lb frames	9½@11
Amber Comb	5 @ 7½
Extracted, White Liquid	5 @ 5½
Extracted, Light Amber	4½@ 4¾
Amber Colored and Candied	3¾@ 4
Dark Tule	2¾@ 3

Beeswax.

Not much offering, neither is the demand very brisk.

Fair to choice, ₱ lb	22@26

Live Stock and Meats.

Following are wholesale rates in the San Francisco markets:

Beef, 1st quality, dressed, net ₱ lb	5 @—
Beef, 2d quality	4½@ 4¾
Beef, 3d quality	3½@ 4
Mutton—ewes, 4½@5c; wethers	5 @ 5½
Hogs, hard grain fed, light fat	3¾@ 3⅞
Hogs, large hard	3¼@ 3½
Hogs, soft and feeders	3 @—
Hogs, country dressed	4½@ 4¾
Veal, small, ₱ lb	5 @ 6
Lamb, spring, ₱ lb	5 @ 6

Poultry.

Although a carload of Eastern poultry arrived, and another carload was announced near at hand, the market was in a little better shape for sellers than during the preceding week, especially for full-grown chickens of desirable size and in prime condition, these selling at a moderate advance. Fat young turkey gobblers were inquired for, but were not on market; they would probably have commanded an advance on quotations. Ducks were in poor request at low prices. Geese did not receive much attention.

Turkeys, live hens, ₱ lb	14@ 16
Turkeys, live gobblers	13@ 14
Hens, Cal., ₱ doz	4 00@5 00
Roosters, old	4 00@4 50
Roosters, young, (full-grown)	5 00@6 50
Fryers	3 50@4 00
Broilers, large	3 00@3 50
Broilers, small	1 50@2 50
Ducks, young, ₱ doz	3 00@4 50
Ducks, old	3 00@3 25
Geese, ₱ pair	90@1 25
Goslings, ₱ pair	—@—
Pigeons, ₱ doz	1 25@1 50

Butter.

Stocks of fresh are tolerably large for this time of year, both creamery and dairy product. Owing, to feed being rather poor in some localities, as is invariably the case at this advanced date in the season, and also owing to hot weather, considerable of the butter now coming forward is showing rather serious defects in color, flavor, solidity, etc., and market for this defective stock is weak. While choice to select was not quotably higher, the market was firm at existing rates, with prospects of better figures in the near future.

Creamery extras, ₱ lb	— @15
Creamery firsts	14 @—
Creamery seconds	12½@13
Dairy select	13½@14
Dairy seconds	11 @12
Dairy, soft and weedy	9 @10
Mixed store	10 @11
Creamery in tubs	14 @15
Dairy in tubs	13 @14
Firkin, Cal., choice to select	12½@14
Firkin, common to fair	11 @11½

Cheese.

The wholesale depots in this center are lightly stocked, and market is firm at the quotations, with small sales at higher figures. Should prices be advanced at present, business would in all probability have to be confined to small jobbing operations, as it is doubtful if buyers could be induced at the advanced rates to take hold in anything like wholesale fashion.

California fancy flat, new	6½@ 7
California, good to choice	5½@ 6½
California, fair to good	5 @ 6
California, "Young Americas"	6 @ 8

Eggs.

Market has shown some improvement this week for strictly fresh stock, prices for the

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same advancing about a cent, with receipts rather small. Some extra large, clean and uniformly white, went to special custom at a moderate advance on top quotation. Common qualities sold at about as low figures as at any previous date this season, the supplies of this sort being greatly in excess of the demand. Eastern eggs have stopped coming forward, but there are liberal quantities here in cold storage.

California, select, large white and fresh	15 @16
California, select, irregular color & size	12 @14
California, good to choice store	10 @11
California, common to fair store	8 @10
Oregon, prime	10 @11
Eastern, as to section and grading	10 @12½
Eastern, seconds	8 @ 9
Duck eggs, dull and weak	12 @13

Bags and Bagging.

The season's demand for grain bags has been about satisfied, but stocks are not yet exhausted. Prices have ruled very steady for several months past and are not likely to show much fluctuation during the balance of the year.

Grain bags, 22x36, spot	4⅛@ 4⅜
Wool sacks, 4 lb	28 @—
Wool sacks, 3½ lb	26 @—
Gunnies	12 @—
Bean bags	4 @ 4¼
Fruit sacks, cotton	5½@ 7

Fruit Market.

Most varieties now in season are coming forward quite freely. The recent warm weather has been maturing fruit rapidly in most localities. With the market liberally stocked, ordinary qualities were not eagerly sought after, and there was a considerable proportion of arrivals only common to fair quality. Fruit which was too green or too ripe was wholly neglected by the better class of buyers.

Apricots of select quality brought $30 per ton from canners, but sales were more common within range of $22.50@27.50, and some would not command over $15.

Peaches made only a fair display, and arrivals included few which could be termed choice. Desirable qualities brought moderately good figures. Early Crawfords are beginning to come forward, and are receiving the preference where they are sufficiently ripe to be attractive.

Plums are not in heavy receipt and are meeting with fairly good custom. Choice Peach plums sold especially well, this being about the most popular of the varieties now offering.

Prunes of the Tragedy and German varieties are now arriving, and are not lacking for custom.

Pears of the early small varieties were rather plentiful, and Bartletts are commencing to come forward in wholesale quantity. Market was in the main weak, particularly for other than choice. Large quantities of this fruit are expected during the next few weeks.

Apples now offering are mostly rather ordinary, Red Australian being the most prominent variety, and these not showing a high average as to quality. Their poor keeping qualities also operate in many cases against their being sold to advantage. A few green Gravenstein have been received.

Figs were in lighter receipt, both black and white, than during the previous week, and the market ruled firmer. Black of small to medium size received the preference.

Tree Fruit.

Apples, Red Astrachan, 50-lb box	25@ 75
Apples, Gravenstein, 50-lb box	75@ 1 00
Apples, Green, ₱ 50-lb. box	30@ 60
Apricots, ₱ ton	15 00@ 27 50
Apricots, Royal, ₱ 6-in. box	40@ 50
Apricots, Royal, ₱ 22-in. box	25@ 40
Apricots, Royal, ₱ crate	50@ 60
Figs, Black, ₱ 2-tier 15-lb box	50@ 75
Figs, Black, ₱ 1-tier box	25@ 40
Figs, White, ₱ box	25@ 40
Peaches, Early Crawford, per box	75@ 85
Peaches, fancy wrapped, ₱ box	60@ 75
Peaches, good to choice, ₱ box	25@ 60
Pears, Bartlett, No. 1, per box	65@ 85
Pears, Bartlett, No. 2, per box	40@ 50
Pears, early kinds, ₱ box	25@ 60
Plums, Peach, ₱ box	50@ 75
Plums, other kinds, lb box	35@ 50
Plums, ₱ crate	40@ 75

Berries.

Currants were in sufficient supply for existing needs and the market was barely steady. Blackberries were rather plentiful and cheap. Raspberries sold at a wide range, owing to great difference in quality. Strawberries were in ample stock to keep the market favorable to buyers.

Blackberries, ₱ chest	2 00@ 3 00
Currants, Red, ₱ chest	2 50@ 4 00
Raspberries, ₱ chest	2 00@ 5 00
Strawberries, Longworth, ₱ chest	4 00@ 5 00
Strawberries, Large, ₱ chest	2 50@ 3 50

Miscellaneous.

Grapes of the Muscat variety arrived in a small way from Palm Springs and sold at $2 per crate. A few grapes, mostly green, were also received from Vacaville and other points. Watermelons were offered in moderate quantity, mostly from Tulare, at $10 to $20 per 100.

Dried Fruit.

The local market is dull and devoid of encouraging feature. Apricots are the only variety of this season's fruit which is yet offering. Prime qualities were this week obtainable at 6c free on board cars at common coast points, and met with very few buyers at this figure. There appears to be an entire absence of speculative demand. It is feared there will be further declines in values before there will be any special activity. The following from an Eastern house shows one cause for the existing dullness and weakness:

The latter part of this month the Eastern peach season will be at hand, when this market will be flooded for 30 to 60 days with an excellent quality of peaches at ridiculously low prices, which does away temporarily or until about the middle of August with other dried fruit.

Of last season's stock of dried fruit there is very little now here of any sort and scarcely any wanted. Quotations for the same are little more than nominal.

The last issue of the *Producers' Price Current*, of New York City, has the following concerning the dried fruit market in that center.

Evaporated apples remain about the same as previously quoted, and while the demand continues very moderate it is generally thought that the stock of '95 apples will be about exhausted by the time the new crop appears. Jobbing sales of fancy fruit are at about 6¼c and very little of that is left in first hands. Choice lots when wanted bring about 5½c, and average prime 5c.; strictly prime dry fruit is not at all plenty and occasionally reaches 5⅛@5¼c. A few carloads of two-year-old stock are seeking an outlet, but the demand for it is small. Lower grades are greatly neglected, and some very poor southern are offering at 3@3½c without having any sale. Exceedingly favorable crop reports come from all the northern States, but especially New York and Michigan. Very little inquiry for sun-dried sliced apples and though not quotably lower are easy in tone. Less call of late for coarse cut and the feeling is scarcely so firm as last week. Chops are practically gone and we drop the quotation. Buyers have been in search of cores and skins and have bid higher prices without securing the goods. No interest in peaches. Raspberries still very dull. Cherries held with some confidence but nothing doing. Huckleberries and blackberries have small jobbing sales at 5½@6c. California prunes have a very good consumptive trade at firm prices; other fruits about steady.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	5¾@ 6
Apples, in boxes	3½@ 4½
Peaches, unpeeled	3½@ 5
Peaches, peeled	9 @11
Pears, peeled and sliced	4 @ 7
Pears, quartered	4 @ 7
Plums, pitted	3 @ 4
Prunes, in boxes, 4 sizes	3½@ 4
Prunes, in sacks, small sizes	1½@ 3

COMMON SUN-DRIED.

Apricots, ordinary	—@ —
Apples, sliced	1½@ 2
Apples, quartered	—@ —
Peaches, unpeeled	2½@ 4
Pears, quartered, 1½@3c; sliced	3 @ 3½
Plums, unpitted	1 @ 1½

Raisins.

Last year's stocks are nearly exhausted. There are some 2-crown Muscatel in the interior, mainly in the hands of one party. One operator is reported to have purchased 100 carloads of coming crop at 2½c. per lb. in the sweat boxes at Fresno. Some report the price at 2¾c., but the lower figure is generally regarded as the correct one. This is a marked advance on last season, when purchases were made at 1¾c.

Boxes, London layers, 20-lb box	75@ 85
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ₱ lb	3¾@4
Loose Muscatel, 3-crown	3¼@ 3½
Loose Muscatel, 2-crown	3 @ —
Sultanas	4½@ —

Citrus Fruit.

Oranges are nearly out of stock, the season being practically ended. A few odds and ends are still offering, hardly sufficient to warrant quoting.

Lemons are in fair supply, but there are no large quantities of choice to select. A well sweated and thin rind lemon is not plentiful, and indications are it will be a long time before the market will be glutted with this sort. Select qualities favor sellers, but common are cheap.

Limes are scarce and market firm.

Oranges—Wash. Navels, ₱ box	3 00@ 3 50
Cal. Mediterranean Sweet	2 00@ 3 00
Cal. Seedlings	1 25@ 2 50
Lemons—Cal., select, ₱ box	2 50@ — —
Cal., good to choice	1 50@ 2 00
Cal., common to good	1 00@ 1 50
Lemons—Mexican, ₱ box	—@— —
Cal., small box	1 00@ 1 50

Nuts.

There is some inquiry for almonds of coming crop, but prices have not yet been established. Buyers could not be found at present at other than decidedly low figures. The market is practically bare of domestic white walnuts, but five or six carloads of French product have been recently landed here, and these will interfere with the sale of domestic product later on.

California Almonds, paper shell	7 @ 8
California Almonds, soft shell	4 @ 6
California Almonds, standard	3 @ 3½
California Almonds, hard shell	2 @ 2½
Walnuts White, paper shell	11 @12
Walnuts White, soft shell	9 @10
Walnuts White, Cal., hard shell	7 @ 7½
Peanuts, Cal., fair to prime	5½@ 6
Peanuts, Eastern hand-picked	5½@ 6½
Pine Nuts	12 @14

Vegetables.

Market is well stocked with most descriptions now in season, and it is the exception where easy prices do not prevail.

Onions, Red, ₱ cental	15@ 25
Onions, Yellow, good to choice	40@ 50
Asparagus, Fancy, ₱ box	2 00@ 2 50
Asparagus, common to good, ₱ box	75@ 1 50
Corn, Alameda Sweet, ₱ crate	1 25@ 1 75
Corn, Berkeley, ₱ crate	85@ 1 00
Corn, Vacaville and Winters, ₱ crate	50@ 1 00
Corn, Green, ₱ sack	50@ 1 00
Cucumbers, Alameda, large box	1 00@ 1 25
Egg Plant, ₱ box	1 00@ 1 50
Rhubarb, ₱ box	50@ 75
Beans, String, ₱ lb	1½@ 3
Beans, Wax, ₱ lb	1½@ 3
Beans, Garden, ₱ lb	2@ 3
Peppers, Green Chile, ₱ box	50@ 1 00
Squash, Bay, ₱ large box	15@ 25
Tomatoes, River, per large box	1 00@ 1 50
Tomatoes, Vacaville, ₱ box	25@ 50
Garlic, ₱ lb	2@ 2½
Cauliflower, ₱ doz	40@ 50
Cabbage, choice garden, ₱ 100	50@ 60

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List of U. S. Patents for Pacific Coast Inventors.

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FOR THE WEEK ENDING JUNE 30, 1896.

563,119 — AMALGAMATOR — F. B. Austin, Tempe, A. T.
563,216 — KEY FASTENER — J. A. Beebe, Tacoma, Wash.
563,007—PUMP—H. C. Behr, S. F.
562,794—BOTTLE—A. D. Boardman, Sumner, Wash.
563,128—CAR UNLOADER—P. E. Boyce, Snohomish, Wash.
563,132—STOPPER—E. L. Brown, S. F.
563,012—PEPPER AND SALT BOX—J. C. Campbell, Spokane, Wash.
563,022—FREIGHT CAR—G. B. Davis, Sierra Madra, Cal.
562,951—FLUSHING BOWLS, ETC.—E. Douglas, S. F.
563,028—COOKING STOVE—W. C. Eymann, Anaheim, Cal.
562,895—WATER TOWER—D. D. Hayes, Oakland, Cal.
562,963—DREDGER SLEEVE—A. L. Horner, Seattle, Wash.
563,181—ORE CRUSHER—E. P. Jones, S. F.
563,244—TROLLEY SYSTEM—W. C. Keithly, S. F.
562,901—DESK HINGE—H. M. Lambert, Portland, Or.
563,046—GOLD SEPARATOR—J. Malt, Oakland, Cal.
563,069—SOLDERING MACHINE—H. Schaake, S. F.
562,936—THILL COUPLING—O. Taber, S. F.
563,104—ANVILS—C. E. Van Coughnet, Fort Bidwell, Cal.
25,728—BED PAN DESIGN—W. M. Searby, S. F.

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The Lecturer's Department.

As was stated last week, the "National Grange Quarterly Bulletin" for the third quarter came to hand just as the Lecturer's weekly budget had been mailed, no room or time remaining for a review of the contents. The bundle of extra copies received have been distributed to subordinate Lecturers whose names and addresses I was in possession of. From a careful reading of the Bulletin it seems inferable that the Lecturer of each subordinate Grange is entitled to and should receive a copy of the paper, and if they do not it is because their names and addresses are unknown. The writer is in possession of about one-half of the names and addresses of the Lecturers, which could be supplied by a one-cent postal card, then any favors for the Lecturers could at once be forwarded as they appeared. The Quarterly Bulletin can be ordered directly from headquarters by addressing Hon. Alpha Messer, Rochester, Vermont, and inclosing 10 cents, which will pay for the four quarters. The writer will order a further supply if his services are desired, but it is presumed that all are supplied with this issue. Taking it for granted that the paper is in the hands of every Master and Lecturer in the State, the writer will only refer to the contents instead of quoting them. The directory of the National Grange is given, and the names of the Masters of the State Granges. The resolutions by the last National Grange are given creating the "Quarterly Bulletin." The summaries for the second quarter are given. "Business Depression" is given as the general topic for July. First—What cause or causes have led to the present depressed condition of business affairs in this country, and the low prices for farm products? Second—What can farmers do towards effecting a change which will be favorable to the interests of agriculture? Extended suggestions are made on how the subjects may be considered. Then follow editorial comments, the Master's department, and other contributions. For August we have the question of "Monopoly." First—What monopoly is most detrimental to farmers' interests, and in what way or ways does it injure them? Second—By what method can the farmers best counteract or overcome the exacting power of monopolies? The topic for September is "Marketing." First—What changes, if any, are needed in present methods of marketing farm produce? Second—To what extent should farmers place themselves in the hands of middlemen? The supplementary questions are twenty-six in number and cover a wide range of up-to-date agricultural topics, written somewhat after the style of our own question cards. Reports from State and subordinate Lecturers follow, approving the Bulletin's plan of lecture work. Much substantial work is shown in this issue which cannot fail to be of great service to the Order, and particularly to all Lecturers in the discharge of their duties.

From Stockton.

To the Editor:—Stockton Grange met as usual on our national holiday, holding a short session. The doors were opened for a gathering of Patrons and friends to a goodly number, and a very entertaining and pleasant afternoon was passed by the rendering of the following programme:

Song, "America".....By the Grange
Day We Celebrate.....Lecturer
Song, "On America".....Anita Leadbetter
The Fourth.....N. H. Root
Mysterious Fireworks.....Sister S. L. Root
Patriotic Extract.....Sister E. M. Stowe
Piano Duet.....Anita and Flora Leadbetter
Red, White and Blue.....Laura Root
Little Women.....Maud Martin
A Family Tragedy.....Mable Gann
Piano Duet.....Sophie Root, Mrs. J W. Smith
Women's Rights.....Flora Leadbetter
Piano Solo, "March Through Georgia".....
.....Maud Martin
The Youngest Native.....Burgie Harelson
Essay.....Sister A. Ashley
Piano Solo.....Bertha Martin
On the Shores of Tennessee.....Anita Leadbetter
Concert Recitation—The Rising of 1776.....
.....Mr. and Mrs. M. P. Noyes
Piano Solo.....Prof. Schmal

MRS. A. ASHLEY'S ESSAY.

One hundred and twenty years ago to-day our country was declared free and independent of Great Britain, and only a few months ago war with her (over the Venezuelan boundary) was averted by enlightened and human diplomacy, showing the wonderful progress made in the power of reason and the brotherhood of man.

Yet, with all our progress, is the honesty of our forefathers waning in our homes and public life? Is reverence for the Sabbath, for age and for real merit slipping into the shadow of present success?

Courage is here, but the economy of our fathers is needed, too.

This Fourth of July precedes the fiftieth year of the raising of California's flag by Commodore Sloat over the custom house at Monterey, July 7th, when the energy of John Drake Sloat and his men and the swiftness of our fleet saved this fair land to the Union of forty-five States and enraged the British commodore. Forty-six years ago California was seeking admission under Zachary Taylor, and in the intense debates that followed Henry Clay, then seventy-five years old, made his last great speech, conceding that California might come in free if in the rest of the territory acquired from Mexico slavery was unrestricted.

In his 7th of March speech the peerless Webster dodged the issue by saying that the laws of nature and physical geography forbade slavery in California. August 13th the Senate passed the bill by 34 to 18, and the House, on the 17th, by 150 to 56.

The fugitive slave law followed, and the legislation of that Congress brought forth John Brown, the border war, election of Lincoln, the bombardment of Fort Sumter, emancipation proclamation, the fifteenth amendment, and a united and great nation.

Proud of our country, proud of our State, with its trade, agriculture and mines, let each voter do bravely what he believes best to supply labor with work in fields and shops, to the end that capital may find markets on which to base gainful wages. Let all citizens (all but one political party has accorded citizenship to woman) study the grave questions of to-day, revering the old flag that floats alike over the tramp and the millionaire.

Stockton, July 6th. N. H. Root.

Fruit-Dryers' Supply House.

L. Cunningham, of Saratoga and San Jose, the well known inventor and maker of labor-saving orchard machinery, including the celebrated Cunningham Dipper, has this season enlarged his business to include a general line of orchard supplies. He will make a specialty of laying out and supplying drying plants complete, and in this work combines his experience as a practical fruit grower and dryer and his skill as an inventor. Mr. Cunningham has established himself at 338-340 West Santa Clara street, San Jose (near the Narrow-gauge depot), where he can be personally consulted at all times during the coming fruit season. Mr. Cunningham's list of labor-saving machinery includes the Cunningham Dipper, the Cunningham Spreader, the Russell Hand Dipper, with a complete line of cauldrons, boilers, dipping baskets, trucks, transfer and field cars, turntables, elevators, orchard wagons, etc. Mr. Cunningham is also agent for the Gibson Patent Anti-Lye Compound, a substitute for lye in processing prunes. A complete catalogue, with full description and list of prices, sent free to applicants. Write to L. Cunningham, 338-340 West Santa Clara St., San Jose.

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The readers of this paper will be pleased to learn that there is at least one dreadful disease that science has been able to cure in all its stages and that is Catarrh. Hall's Catarrh Cure is the only positive cure now known to the medical fraternity. Catarrh being a constitutional disease, requires a constitutional treatment. Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system, thereby destroying the foundation of the disease and giving the patient strength by building up the constitution and assisting nature in doing its work. The proprietors have so much faith in its curative powers that they offer one hundred dollars for any case that it fails to cure. Send for list of testimonials. Address,

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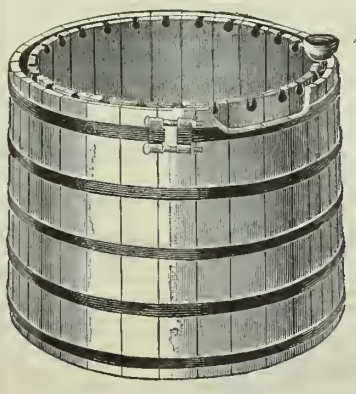

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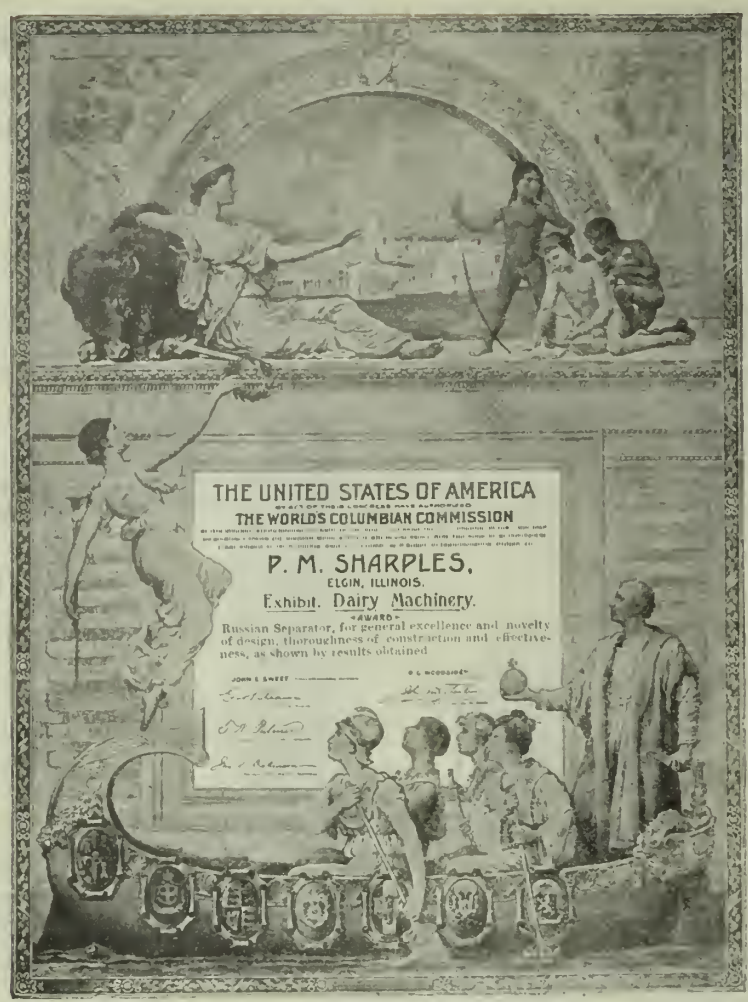

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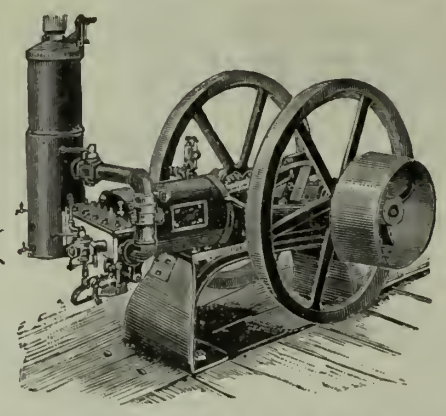

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It will be readily seen that the operation of these Engines with crude petroleum reduces the cost of operation to a minimum. Crude petroleum with paraffine base at 1-10c per horse power per hour; on crude petroleum, asphaltum base, ¼c per horse power per hour; on domestic coal oil, 1½c per horse power per hour; and on gasoline, 2½c per horse power per hour.

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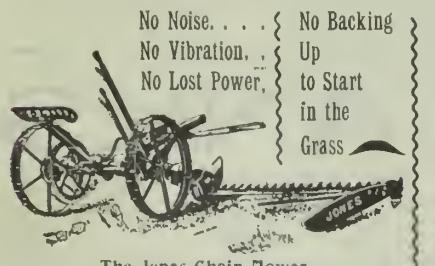

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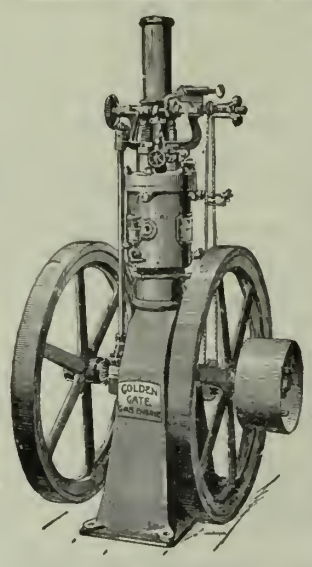

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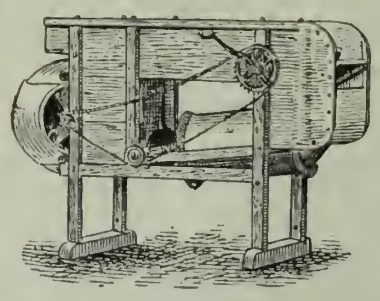

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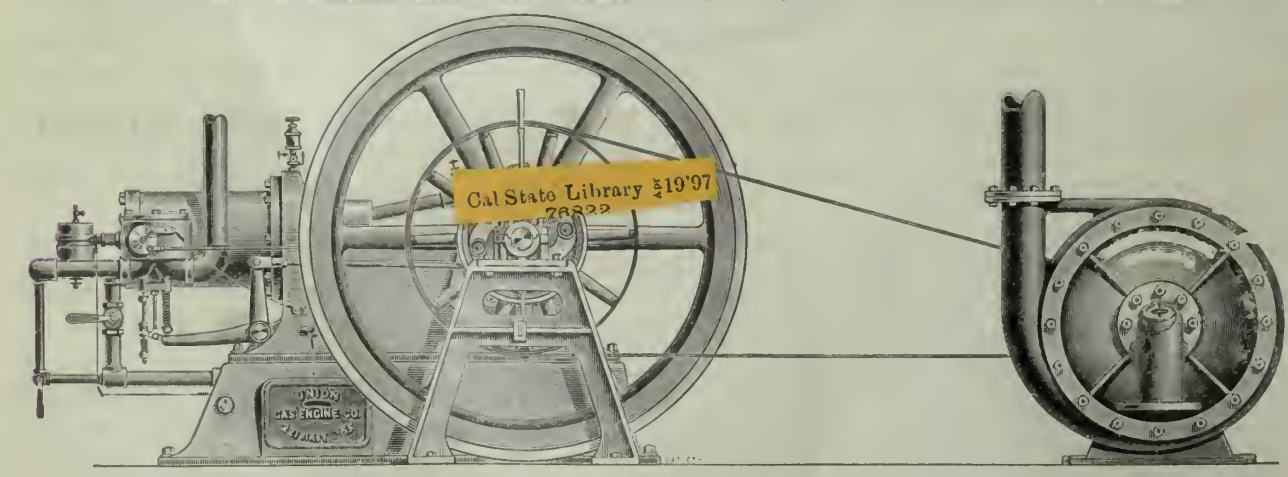

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THE PACIFIC RURAL PRESS AND CALIFORNIA FRUIT BULLETIN.

Vol. LII. No. 4. SAN FRANCISCO, SATURDAY, JULY 25, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.

This paper not to be taken from the Library.

Two Beautiful Eucalypts.

The two handsome plates on this page are reproduced from the monograph on the Eucalyptus by Mr. Abbot Kinney, La Manda Park, Los Angeles county, to which we alluded at length in last week's RURAL. These two species of eucalyptus are growing at several points in the State, but they must be counted rare as compared with several species which have been more widely distributed throughout California. *Eucalyptus calophylla* should be the "beautiful leaved" tree, if we translate its specific name, but Mr. Kinney thinks that as an ornamental tree it has proven rather disappointing. The leaves he describes as rather dark green, somewhat glassy, with the veining often a rich yellow. The bark is rough, gray and persistent. The cream colored flowers are numerous. The fruit and seeds are the largest of the eucalyptus genus and the engraving shows these well. They are somewhat urn-shaped, or perhaps bell-shaped, and it did not take long after their appearance on the trees in southern California before inventive smokers began to make pipe-bowls of them. With one of these trees and a clump of Himalayan bamboo to make stems of and a patch of tobacco all growing in his yard, a smoker becomes wholly independent of the tobacconist, for he can have home-made smoke all the way from the match up. The cups of the *E. ficifolio* also serve a good purpose for pipe making, but they are smaller and simpler to outline.

FOLIAGE BLOOM AND FRUIT OF EUCALYPTUS CALOPHYLLA.

Mr. Kinney notes that the *calophylla* is rather slow of growth in California, is rather subject to frost and the latest specimen at the Santa Monica forestry station is forty-five feet high while in Australia it rises from 100 to 170 feet. The timber is used in Australia for the purposes for which the hickory is used in the eastern United States.

BLOOMING BRANCH OF EUCALYPTUS POLYANTHEMA.

The other species shown in the picture is *Eucalyptus polyanthema* and Mr. Kinney regards it as one of the most attractive of the eucalypts. In its home it sometimes reaches a height of 250 feet and is native to a rather dry, rolling country. The wood is red and very durable. The flowers are very abundantly produced, are silvery, and with the same delicate powdering as those of the young blue gum. The foliage is a white-blue, silvery tinge and including both bloom and foliage Mr. Kinney remarks that this eucalyptus is far more a harmony in silver grey than any other plant he knows. Throughout its silvery foliage are scattered the delicate flower panicles still more silvery. This description would seem to fit the tree for the insignia of one side in the imminent political campaign.

The timber of the *polyanthema* is useful, being very tough and hard to split. The tree is a moderate grower and hardy enough to endure outdoor temperatures in the south of England. To these advantages Mr. Kinney adds its unique beauty, which includes more than color, for its growth is very graceful; each leaf being attached to the branch by a slender stem. This grace of form and growth is well shown in the blooming branch of the engraving.

THE death of Mr. A. Mailliard of Marin county removes one of our pioneers in the introduction of improved cattle breeds to California. Mr. Mailliard took up the Jerseys, and a quarter of a century ago was perhaps the most prominent Jersey breeder in the State. Recently he has retired from public view and passed the closing ten of his 77 years on his dairy farm near San Rafael. Mr. Maillard was of honorable French lineage and occupied in his native country positions of high rank. His wife was a sister of Julia Ward Howe. His son, J. W. Mailliard, is president of the California Dairy Association and a very energetic and progressive citizen.

SEEDLESS RAISINS are to be produced in quantity in a way quite new to California. It is currently reported that George W. Pettit, of New York, and Colonel William Forsyth, of Fresno county, have commenced the erection of a three-story mill in Fresno for seeding raisins. The plant will cost $10,000 and will seed two carloads a day. The only other mill of the kind in this country is in New York and belongs to Mr. Pettit. The seeded product sells for three times the price of the unseeded. It is believed that the raisin business will be improved by this enterprise, which will probably be extended next season. The cost of seeding and packing raisins is 2½ cents per pound.

THE "plant," which the California Wine Association is establishing in Fresno in connection with the recent purchase of the Madera vineyard by the Swiss-Italian Colony, promises to make a boom in the vineyard industry. The property bought amounts to 640 acres, of which 150 are in wine grapes. Three hundred and fifty acres additional are to be set out when the rainy season comes on. Meanwhile building is going on and machinery is being set which represents an outlay of $30,000. There will be a distillery as large as that of the Wine Association at Fresno, a wash tank of 50,000 gallons' capacity and a sherry house capable of containing 30,000 gallons of wine. About thirty men are at work, and nearly that number will be given steady employment. Heretofore the people of Madera have had to ship their grapes a long distance to the wineries, and this expense, with the low price of wines, has caused a falling off of their production. They will now be able to sell to the Italian-Swiss colony at their doors.

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Our latest forms go to press Wednesday evening.

Registered at S. F. Postoffice as second-class mail matter.

ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, July 25, 1896.

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The Week.

Weather and Crops.

There is quite an extreme contrast this week between coast and interior conditions. The coast has had abundant fogs and moderate temperatures while the interior heat and dryness have run high. In some places complaint is made of injury to orchard foliage and harm to fruit bereft of leaf-shade. Even where this has not occurred there has been quite a rush toward maturity and peach drying has gone forward. The harvest is proceeding favorably and threshing returns are often better than anticipated.

The following data for the week ending 5 A. M. Wednesday, July 22, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	....	....	.11	.09	68	50
Red Bluff	....	....	.16	.01	108	64
Sacramento	....	....	.04	T	*	60
San Francisco	....	.04	.01	.01	66	52
Fresno	....	....	....	T	108	66
San Luis Obispo	....	.04	....	*	82	56
Los Angeles	T	T	....	.02	88	60
San Diego	T	T	....	T	80	64
Yuma	.30	30	.01	.10	106	76

* Indicates no record.

Camp Roache Summer School.

The two weeks' series of lectures on agricultural and economics at Camp Roache in the Santa Cruz mountains proceeded according to arrangements as the brief outlines of the lectures given in our columns show. So far as attendance was concerned it was almost exclusively a neighborhood affair; and viewed as a neighborhood enterprise it was very interesting and successful. People attended with unusual regularity, and listened with marked attention and entered into the discussions with vigor. It is the judgment of some at least in the neighborhood that the region is much benefited by the assemblages they have had this year and last, that important suggestions have been made to them and local improvement measures have followed. There is certainly discernible to a visitor a very commendable spirit of enterprise and community interest. The Grange hall nearly completed is a handsome and commodious structure. Preparations for road sprinkling are advanced. Progressive ideas on viticulture and horticulture are leading to some changes in local views and practices. Whatever may be said about the apathy of the people on the outside, it is plain that the Santa Cruz mountains have taken a strong hitch forward by their co-operative educational work and they do not propose to abandon their summer school idea at all even though they may decide to have it all to themselves and not invite the rest of the world at all.

Ravages of the Army Worm.

A telegram from Washington City quotes an official of the U. S. Department of Agriculture as follows: "From Maine to Missouri come startling reports of the ravages of the army worm. According to reports received at the Agricultural Department, these pests have caused great devastation to crops in the Eastern States. They have been particularly abundant in New York, Massachusetts and Pennsylvania. No estimate has yet been made of the total value of crops which have been destroyed this year, as the department has not received full particulars from all localities where the worms have appeared. There is no doubt, however, that the losses will foot up into the millions."

Drouth in Eastern Washington.

A dispatch from Tacoma (19th inst.) thus describes the situation in Eastern Washington:

The drouth of the past two weeks in this State has been unprecedented both east and west of the mountains. A gentleman who recently made a trip through the Horse Heaven section in Yakima county says the heat is something terrible. Grain has been badly burned and will not go twelve bushels to the acre. He was forced to drive thirty-three miles through the broiling sun and stopped at three or four houses to get a drink, being refused each time. The water is so low that a padlock and chain is kept on the bucket, and wells go nearly dry each evening when water is drawn for stock, slowly filling in at night sufficiently to provide water for the next day. In many portions of the Palouse and Walla Walla grain districts wheat is injured by hot winds 20 to 30 per cent, the damage being particularly heavy to spring grain. Up to July 5th prospects were for the heaviest crop ever seen in the State. If the damage becomes no greater, there will in most sections still be an average crop, on account of larger acreage. A hot south wind began blowing across eastern Washington on July 4th, increasing next day to 108° in the shade. This hot weather has continued, except for a light rain which fell in some sections on July 12th. Grasshoppers have also appeared in Walla Walla county, and several fields of oats are already ruined.

Murrain in Orange County.

Dr. Garner, veterinary surgeon of Santa Ana, reports that upwards of 100 cows have recently died in Orange county of murrain. The disease, says the doctor, in an interview with the Santa Ana *Blade*, "is most liable to fasten itself upon cows of good flesh. Animals in poor condition stand an excellent chance of escaping. Wherever the disease strikes it generally proves fatal, he said. The only efficacious medicine is that applied to unaffected cows. It can be prevented, but very rarely cured." Dr. Garner thinks the disease of too thick blood, and his treatment is to bleed copiously.

Grain Fire Near Oakdale.

The Modesto *Herald* of the 18th inst. reports a disastrous grain fire near Oakdale as follows:

The most destructive grain fire known to this part of the State in many years ranged over 3000 acres of land east of Oakdale last Saturday evening, destroying 1000 acres of grain and a number of buildings. As nearly as we can ascertain, the flames originated from a spark arising from the friction of a wheel of a header and a stone, on the Haslacher & Kahn land, known as the Middle Camp ranch. Gilbert Erickson is the lessee and was driving the header. He barely saved the outfit and his life, the flames rushing down upon him so rapidly that he had no time to unhitch and flee. In his extremity he drove through a barbed-wire fence, the flames pressing so closely that the tails of the horses were scorched. All the houses (except the residence), barns and blacksmith shop on this ranch were destroyed. Erickson lost about 400 acres of grain, Owens Bros. about the same acreage, Dick Threlfall 60 acres and John Connors 65 acres—the latter on land of the Oakdale Land and Improvement Co. On this land, too, 100 cords of wood belonging to the Improvement Co. were burned. A large quantity of hay and more or less farming tools, implements and appurtenances on the Erickson place were destroyed with the barn.

The people of the entire county for miles around were out fighting the flames, but they did not succeed in checking them until the canal of the Stanislaus & San Joaquin Water Co. was reached.

The loss is estimated at from $10,000 to $12,000, pretty fairly covered by insurance. The grain was insured at from $5 to $7.50 per acre. It was nearly all wheat.

One account is to the effect that the fire started on the Threlfall place and crossed to the Erickson ranch.

Short Supplies of Canners' Fruit.

The vicissitudes of the season have resulted in a shortage of the fine fruits which canners need for high standards and extras. Supplies strictly fine in appearance and sound should bring good value. Cutting Packing Co. of this city, in their circular of July 23, show that canners have had to seek for good fruit this year. They say:

Apricots.—We do not know of a season when the quality of apricots has become so poor as a general proposition. The extreme heat has produced a great proportion of cracked fruits and sour pits, while the extreme cold weather noted all through the spring caused an equally large proportion of scrubby, scaly and smutty fruit; consequently, good canning stock has been growing scarcer up to about a week ago, when the unprecedented hot spell had an even more serious effect. The crop as a whole would have been equal to that of '95 had it not been for the above unfavorable conditions, but as it is, fully one-half of those engaged for canning are being rejected and turned into the dry yards, and the pack as a whole will doubtless not exceed 60 per cent of that of 1895.

Peaches.—Hot weather has caused a considerable drop on the Sacramento river, where frees are short and quality much poorer than expected, on account of premature ripening, the heat preventing the growth to full size. Frees, however, will be much more plentiful in other localities, and the out-turn, as a whole, larger than in 1895. Clings are not turning out well at all, being more visibly affected by heat even than the frees, and they are dropping considerably. As a whole, the crop will not be of good quality, and though plentiful in quantity, there will be the same difficulty in securing good canning stock as with apricots.

Pears.—The crop is a disappointment as to quality, although the quantity is large except in the extreme North, the same trouble affecting quality as peaches and apricots, fruit running small with much scab and scale; good stock is commanding a high price and will not be over plentiful, while low grades as to size and smoothness will go begging at buyer's price.

Plums.—Crop is maturing very short in quantity, as previously advised, and there is no improvement worth noting; quality, however, will be quite up to the average.

New Eastern Wool Rates.

A Chicago dispatch of the 11th inst. says:

The board of managers of the Joint Traffic Association has made the following rates on wool, to be in effect until August 15th: Wool, uncompressed, in carloads, minimum weight 10,000 pounds, from Duluth, Minn., and West Superior, Wis., via lake and rail, when originating at points in Montana and points north and west thereof, to New York, 45 cents per 100 pounds; to Boston, 49 cents per 100 pounds; to Philadelphia, 43 cents per 100 pounds; to Baltimore, 42 cents per 100 pounds.

Pith of the Week's News.

IT costs Fresno county $20,000 per year to support its indigents.

PALM VALLEY sends San Francisco the first complete carload of grapes this season.

IN the encounter between Spanish troops and Cuban insurgents on the 17th inst., 200 of the latter were killed.

THE daughter of Senator Tillman of South Carolina was killed by a thunderbolt last week while attending a picnic.

COSTA RICA has decided to adopt the gold standard. All other countries of Central and South America are on a silver basis.

GOV. BUDD has appointed Lt.-Col. N. T. James Major-General of the National Guard of California to succeed Wm. H. Dimond, deceased.

THE Tulare Grange has adopted a series of resolutions condemning the system which connects the State Agricultural College with the State University.

THE work of organizing Ballington Booth's Volunteers in imitation of the Salvation Army is now going on on this coast. There appears to be no lack of recruits.

IN the opinion of the Governor the payrolls of the Napa and Stockton asylums are too large and the superintendents will be required to find means of reducing them.

THE Superintendent of Government Buildings recommends the appropriation of $250,000 for the erection of an office building for the President in the White House grounds.

THE steamship Colombia which went ashore at Pigeon Point, San Mateo county, last week will be a total loss. She was a recent purchase of the Pacific Mail Co., and cost $680,000.

GOVERNOR BUDD has appointed Robert T. Devlin a member of the State Prison Board to succeed J. H. Neff. The majority of the board is still Republican and will be for two years more.

THE gold reserve of the U. S. Treasury recently for the third time replenished by sale of bonds, is again rapidly declining. A total of $3,000,000 was withdrawn last week for foreign shipment.

STORIES to the effect that Justice Field had suffered a physical and mental collapse has been reported and denied during the week. In spite of the denial it is believed that the aged judge is nearing his end. He is now in San Francisco having just returned from a stay at Paso Robles.

THOSE Democrats who decline to accept the results of the Chicago Convention have not yet settled upon a programme for the campaign. They are busily engaged in consultation and are expected to announce their plans before the first of August. Most of the bolting Democratic papers are supporting McKinley.

WM. A. CLARK, the Montana millionaire, is building a monument for his wife at a cost of $100,000. Mr. Clark has the right, undoubtedly, to spend his money in the way which best pleases him, but it would be much better sense if he were to endow an orphan's home rather than build a useless pile of stone.

WM. E. RUSSELL, a prominent figure in the recent Chicago convention, was found dead in his bed on Thursday of last week. He was only 39 years old, but, in spite of his comparative youth, had served three terms as Governor of Massachusetts. He was a close personal friend of President Cleveland and an ardent supporter of the gold standard.

THE salaries of San Francisco city employees foot three and a half millions of dollars per year. If the existing political system could be superceded by common honesty and business efficiency the cost would be reduced more than one-half. The salary list, of course, is only part of the general cost of the city government.

THE delegates from California to the Populist Convention at St. Louis held true to Populist traditions by making the trip in a plain immigrant car. A very small additional payment would have secured the substitution of a parlor car, but the delegation thought it would be in better keeping to go in simple and plain style.

THE Republican managers are planning to put their heavy oratorical guns in the field early in the campaign. Among those pledged to take the stump are Ex-President Harrison, Chauncey M. Depew, Senator Foraker, Gen. W. H. L. Barnes, Thos. B. Reed, Senator Wolcott of Colorado, Stewart M. Woodford of New York, Senator Sherman and Gov. Hastings. Democratic campaign plans are held in abeyance, waiting upon the results of the Populist Convention at St. Louis.

A COMMITTEE of the Cape Town Assembly, appointed to investigate the relations of Cecil Rhodes et al to the Jamison invasion of the Transvaal, has reported charging that Rhodes was at the bottom of the project and that his company supplied the funds. It would appear that upon the basis of this report the English Government would be compelled to proceed against Rhodes, but it is safe to say that it will not do it. It is, however, difficult to see a hole out of which Mr. Salisbury can crawl.

THE center of political interest this past week has been St. Louis, where the Populist and Silver Party conventions are just beginning as the RURAL goes to press. The Silver Party men are almost unanimous for endorsement of Bryan, but there is serious division of opinion among the Populists. The greater number appear to be favorable to endorsement, but some of the strongest leaders, including Ignatius Donnelly, Secretary Tauheneck and many extreme men from the Southern States, are earnestly, not to say passionately, opposed to it. They would, perhaps, be willing to come half way toward a compromise, but Bryan will not consider the matter. He declines absolutely to make any promises as to his Cabinet or as to division of patronage, declaring that he must be accepted without conditions or not at all. The project of endorsement will probably win, but there will be, as in the case of the Republican and Democratic conventions, a bolt of greater or less magnitude.

General Fruit Outlook.

Crop Reports from the East and from Foreign Countries.

WASHINGTON, July 19.—A generally poor condition of fruit throughout the country is announced in the Agricultural Department report just published. Apples declined in condition from 71 to 61.6 during June. Prospects for excellent crops still continue in New England, New York, Pennsylvania, Michigan and Iowa. Conditions are also fair in Nebraska and several of the mountain States.

In other parts of the country the condition of the crop is far below the average, being lowest in the Atlantic coast States, where the percentages are generally below 50. In the Ohio valley and certain of the western States not yet referred to the figures are somewhat higher, but nowhere above 67, which is the percentage reported for Illinois and Missouri.

The peach crop promises to be of good proportions. During the past month a fall of 12.9 has taken place, leaving the general average now 51.8. Goods crops are expected in Delaware, Maryland, Michigan, Illinois, Indiana, Kentucky, Missouri and Kansas. The crop has suffered considerably in California, as is shown by the condition of 77, which is lower than in any July condition in that State since 1890. In New Jersey the fruit is falling badly. The Connecticut and New York orchards promise very little fruit, and in Pennsylvania the condition is better than in contiguous New Jersey, standing at 52.

In the European countries last month the conditions were highly favorable to growing grain. A summary follows:

United Kingdom—All crops were greatly improved by the rains at the end of the month, and nearly all districts indicate an average crop. Hay making has been general, and the shortage on account of the long drought is not as great as was anticipated.

France—It is expected that the wheat crop will considerably exceed that of last year. It is not yet safe to say that there will be a surplus, but it is confidently predicted that the wheat crop will be sufficient for home requirements. All other cereals are looking very promising.

Germany—The month has been generally favorable to the standing grain. Late telegraphic advices are not couched in such sanguine words as those from France and Austria, but fair average crops are predicted.

Holland and Belgium—Crops flourishing; a good average expected and an early harvest.

Spain—Favorable weather has materially improved the outlook for wheat and an average crop is expected.

Austria-Hungary—An unusually favorable June encourages the belief in a large return of cereals, wheat and rye especially. The wheat is standing thin on the Hungarian plains and the harvest is expected to be early.

Italy—An average crop of cereals is expected.

Bulgaria and Roumania—June weather has brought wheat along wonderfully, and the prospects are now good. Maize is also looking well.

Russia—Reports give good average with crop conditions favorable, except as to winter wheat in Kherson and Bessarabia.

The Eastern Fruit Market Unreliable.

(Sacramento *Bee*, 18th inst.)

One year ago to-day the shipment of fruit from California to Eastern points was fifty-five carloads. To-day it is only twenty-seven, not quite half as much. Up to this date last season, the total number of cars that had been forwarded East was 1039. Including the twenty-seven cars shipped this morning, the total shipments for the present season is only 961, a difference of 78 cars in favor of last season.

The difference will be largely increased, for the bulk of fruit that is fit for the Eastern market has already been picked and by the middle of next week the number of cars will be dropped below two figures, and the daily shipments can be counted on the fingers of one's hands.

No one has got wealthy this season who grows fruit for a living, neither have the shippers and the middlemen waxed rich, for they had prepared for a large business, and had to put up with a very small one. Outside of two firms the fruit business so far as shipping was concerned has amounted to but little. Porter Brothers Company and the Earl Fruit Company, it will be seen by the daily published reports, are doing nearly all the forwarding, and they have had so little to do that they found it necessary to retrench expenses, and have dispensed with a considerable part of their clerical force.

The remoteness of the Eastern markets, and the competition with the Southern and Middle States, the unreliability of the market, the cost of transportation, etc., have caused many growers to turn their attention to the dry house and the cannery.

An orchardist who has had many years' experience; who has shipped thousands of cars of green fruit East; who has realized a $1000 profit on a single car; and who has had many returns written in red ink, signifying a total loss, and compelling him to pay freight and charges on his consignment, was interviewed this morning by a *Bee* reporter. He said:

"Some have made money shipping fruit East, but I can say without fear of contradiction that there is no orchardist in this State but who would be better off to-day if he had never shipped a pound of green fruit across the mountains. Men with fine orchards have shipped hundreds of tons annually, and if they had enough left to pay their taxes they did well. Now suppose they had sold to canneries and dried; they would at the end of the year he several thousand dollars ahead. A ton of dried fruit of any kind represents more than $100.

"After this season I shall be prepared to take care of my crop on the ranch. I will have my own cannery, my own dryer and then I will put my goods on the market myself, and when the prices justify me in doing so. I will have no middlemen to pay, no auctioneers to settle with, no big freight bills to liquidate. On the contrary, my expenses will be lighter, and I will become a public benefactor by giving employment to 200 or 300 women and children. I will not have them work at starvation wages either. I can afford to pay them well and then come out away ahead of what I am doing this year—sending my crop East and then trusting in the men in the Windy City, Gotham and the Hub to pay me living rates for it."

Gleanings.

THE Wheatland Creamery finds a ready local market for its whole product.

CALIFORNIA fruit was cheaper last week in New York than at Sacramento.

THE apricot crop in the Pajaro valley is large and the greater part of it is being dried.

A. B. CONNELLY, a well-known farmer living near Tracy, was killed in a runaway accident on Monday.

THE State Dairy Bureau is prosecuting an active crusade against bad butter in the San Francisco market.

R. D. STEPHENS estimates that the American river district will have only 40 per cent of an average crop this year.

THERE is talk at Sacramento of establishing a modern abattoir. The local wholesale butchers are back of the project.

ALBERT GERBERDING, the well-known grain dealer, has been elected president of the San Francisco Produce Exchange.

SOMEWHERE from 1000 to 1500 sacks of wheat belonging to D. H. Hanno were burned by a stubble fire near St. John last week.

OUT of a herd of 58 cows on a dairy ranch on the San Bruno road near San Francisco, 35 have been condemned by the inspectors and ordered killed.

COMPARISON of the grain rates of the Valley road with the old S. P. rates, shows an average reduction of 20 per cent. The cut will be met by the S. P. Co.

WALDEN & Co.'s large winery, north of Geyserville, will not be operated this year, owing to the scarcity of grapes and the high prices ruling. The distillery will remain idle also.

THE estimated yield of hops in Sonoma county this year is 9000 bales. Offers of 3 cents per pound have been refused. In 1894 the yield was 1554 bales, and in 1895 1050 bales. Owing to the low price this year many hop growers did not cultivate their yards.

DAVISVILLE letter, 15th inst.: "W. H. Binney, of Balfour, Guthrie & Co., San Francisco, purchased yesterday from H. Stelling 30,000 sacks of barley. This is supposed to be the largest sale made in the county during the last ten years. The barley was sold at a top-notch price."

THE U. S. Department of Agriculture has decided to cooperate with the California local authorities in an effort to stamp out cattle diseases prevalent in this State. The plan is to send out an inspector to be joined by a person appointed by Gov. Budd and for these two to make a thorough inspection of cattle.

FRESNO, July 15.—George W. Pettit of New York and Col. William Forsyth of this county have commenced the construction of a three-story mill for seeding raisins in this city. The plant will cost $10,000, and will seed two carloads a day. The only other mill of the kind in this country is in New York and belongs to Mr. Pettit. The seeded product sells for three times the price of the unseeded.

FROM 160 acres, a Tremont, Solano Co. farmer—Wm. McCann—has just harvested 2360 sacks of wheat, an average of 14¾ sacks to the acre. It was Genessee wheat, a variety that has always been fought shy of on account of the great danger of shelling by our heavy north winds, but in this case it was not injured by the heavy blow of June. It sells in the market as number one milling wheat and is sought after eagerly by millers.

THE cannery of the Cutting Packing Co., at Santa Rosa will start up about August 1st and will make the season's run on peaches, pears and plums. The management has announced that only home labor will be employed. Hunt's cannery will begin operations about the same date. Since this cannery last shut down radical improvements have been made in the plant and it is now able to turn out 60,000 cans per day. During the period of their operation these two canneries employ about 1000 hands.

HANFORD *Journal*: "Dr. N. P. Duncan has sold the crop of wheat on his lake ranch this year to John Stokes, the Visalia hog grower, for a profit of over $2000 over and above all expenses. The doctor has done well by investing $800 for a few months. He only made a few trips to the lake to look after the putting in of the crop. He conceived the idea last fall that he could put in a crop of wheat this year on his swamp land on the lake, formerly the lake bed, and make good money out of it, and the result proves that he was not mistaken."

THE manager of Haggin's great breeding farm—Rancho Del Paso—and the Sacramento county assessor have not been able to agree upon valuations of the Haggin horses and the matter has come before the Board of Equalization for settlement. Mr. Mackey, the manager, stated before the board that he did not consider the whole outfit of stallions—three in number—worth more than $25,000 in spite of the fact that they cost originally many times that amount. The great Salvator, he thought, worth not more than $1000. The land valuation was $706,700 and no reduction was asked.

FROM almost all parts of the State reports come of better grain harvests than was expected. Says the Gridley *Herald*: "Fred Moesch, the well known wheat buyer, visited the farming section on the adobe to the west of town this week, where harvesting is in full blast. He reports that grain is turning out better than anticipated; the crop going from 8 to 20 sacks to the acre. Wm. Grant, on the Balfour-Guthrie land on the canal, has a very fine crop, the average being from 15 to 20 sacks to the acre. It is interesting to note that this is produced on land supposed at one time to have been ruined by mining debris from the Cherokee canal."

A LARGE amount of Tulare fruit has been contracted for by canneries at San Francisco, San Jose, Sacramento, Santa Rosa and elsewhere. Commenting on this fact the *Register* says: "We have not heretofore sent much canning fruit to outside places but this season may see the beginning of a trade that will attain large proportions. Tulare county grows peaches that are always in demand after the first taste, as no better are found anywhere. We ought to can them at home, but while we do not if we can dispose of a portion of the crop to outside canneries it will doubtless be better than drying the whole lot."

WITH reference to the season's apricot crop in the country about Santa Ana the *Blade* says: "The amount of fruit was far above the expectations of all growers, and of a quality equal to any previous year. Considerable complaint is heard among extensive producers as to the extremely low price at which the market has opened, all that is offered by local buyers being 5@5½ cents per pound, which will gather up a few tons held by the numerous small growers in lots of 100 to 500 pounds. The majority will hold for 7 or 8 cents. The fruit will be sold mostly under the exchange system of f. o. b. now in vogue in southern California. Considerable discussion is heard about the formation of a combine among the growers of this fruit. It is their intention to send a man East to dispose of their crop and ship direct to him, claiming they can net over 10 cents by so doing."

THE *Rhizobius* is again to the fore in San Bernardino county. In spite of the report of Inspector Havens condemning the bug as useless, the commissioners are colonizing them by the hundreds of thousands. The Riverside *Press* says that while the discussion was going on before the board "Supervisor Edmiston said that last August he colonized between 300 and 400 of the parasites on some olive trees on his place that were very badly infested with black scale, and that now the trees were almost, if not entirely, rid of the scale." It is the judgment of the *Press* that "the authorities have been too sparing in colonizing the *Rhizobius* in this county to insure a practical test."

LOMPOC *Journal*: "The bay crop in this valley this year is good. There will be plenty for all purposes and some to sell. The barley crop is light. There will probably not be any more raised than will be needed for home consumption. The mustard crop is variously estimated at from 10,000 to 20,000 bags. We think 15,000 sacks is a conservative estimate. It is rather early yet to determine what the beans, potatoes, etc., will do. There is quite a large acreage planted and at this writing the prospect for a fair crop is good. It is an off year for fruit. Apricots and peaches are slim. Apples are some better but nothing to brag on. Some small fields of corn look well and the root and pumpkin crop will be fair. Lompoc apples should bring a good price this year."

THE extreme heat of the past two weeks has had the effect of ripening fruit in many orchards "all in a heap," and the result has been such a rush of work as the country does not often have to face. The Contra Costa *Gazette*, in describing the situation at Mr. Bancroft's Aloha farm, presents a picture which has been reproduced in a thousand instances. "The hot weather," says the *Gazette*, "has brought on the fruit all at once. Ten sulphur houses are kept running well along into the night. The fruit on the dry ground is handled on cars, which are rapidly and easily moved from place to place and work without a hitch. Twelve cars and a transfer car are used. The cutting is all done by neighborhood people—men, women and children. They come on foot and horseback, in wagons, buggies, carts and on wheels. There are several families of cutters camped under the large oaks which surround the drying ground. There are more than 100 busy people at work at the place on the apricot crop." So it is in all the fruit districts.

Weather and Crops.

Synopsis of the Report of State Weather Bureau for Week Ending 20th Inst.

Following is a summary of the weather and crop report compiled by the State Agricultural Society in co-operation with the U. S. Weather Bureau, James A. Barwick, Director:

Sacramento Valley Counties.

TEHAMA COUNTY (Red Bluff).—The hot spell since July 1st is unprecedented. For eighteen consecutive days the temperature has registered 100° and over.

BUTTE COUNTY (Pentz).—Several sunstrokes have occurred in the large harvest fields, two of which were fatal, and many horses and mules have died from the effects of the heat. Highest and lowest temperatures, 106° and 64°.

COLUSA COUNTY (Grand Island).—The barley crop is the heaviest ever known in this section. Highest and lowest temperatures, 104° and 64°.

GLENN COUNTY (Willows).—Harvesting returns give assurance that the grain yield will be far above the average.

SUTTER COUNTY (Yuba City).—Early grapes are ripe. The crop is about an average.

PLACER COUNTY.—Crops will be better than have been harvested here for a long time. (Auburn)—Grain is plump and full. The cattle men have moved their stock to the mountains, as the valley food has about given out on account of being dried up. (Colfax)—The grape prospects for this season are extremely good, especially the Tokay.

SACRAMENTO COUNTY (Sacramento).—The weather has been fine for all crops. Highest and lowest temperatures during the past week 96° and 59°.

YOLO COUNTY (Woodland).—Last week was the hottest ever experienced in this locality. Thursday the thermometer registered 118° in the shade. Threshing has commenced, but as most of our crops are saved by the combined harvester it leaves but little for the harvester to do.

SOLANO COUNTY.—The harvest is a bountiful one. (Vacaville).—The pear crop will be heavy. (King District).—Grain in this section is very heavy this year. (Dixon).—Weather for the past two weeks is the worst in many years. The thermometer has ranged from 100° to 104° daily. Two men have died from heat in the southern part of Yolo county. Thirteen horses have succumbed in various parts of this county.

Napa, Sonoma and Santa Clara Valleys.

NAPA COUNTY.—Warm weather is assisting the grape crop which bids fair to be at least average for the greater portion of this county.

SANTA CLARA COUNTY (San Jose).—Prunes on gravelly soil are dropping from the effects of the continued hot weather, and even in good soil some are cooked on the trees.

San Joaquin Valley.

SAN JOAQUIN COUNTY.—Watermelons are coming on rapidly. Highest and lowest temperatures, 100° and 60°.

FRESNO COUNTY (Reedley).—Grain turning out well. Highest and lowest temperatures, 109° and 84°.

TULARE COUNTY (Lime Kiln).—Weather favorable for all crops except watermelons, which have been somewhat burned. Highest and lowest temperatures, 112° and 66°.

Southern California.

SANTA BARBARA COUNTY (Santa Maria).—Grain yield is nearly an average, but the acreage is smaller than usual. There are very few apricots this season. Highest and lowest temperatures, 80° and 56°. (Los Alamos).—Harvesting of mustard seed is in full operation. A full crop only in a few instances can be looked for. The yield will be much less than usual for previous years.

SONOMA COUNTY (Peachland).—Highest and lowest temperatures 90° and 58°.

ALAMEDA COUNTY (Livermore).—Grasshoppers are very numerous in the foothills, and are becoming somewhat troublesome in the vineyard portions of the valley.

VENTURA COUNTY (Santa Paula)—Beans are looking well. Highest and lowest temperatures, 86° and 55°. (Ventura)—Orchardists have finished their apricot drying. The fruit is excellent, but the quantity is light. Mr. J. B. Wickoff of Nordhoff brought in a new orange to this section on Thursday. They are larger than seedlings with a rind like Tangerines, yet they are very sweet and luscious and with but little pulp.

LOS ANGELES COUNTY (Pomona)—Apricot drying is about over; light crop. Peaches are scarce.

SAN BERNARDINO COUNTY (Chino)—The general outlook is for an excellent beet crop.

Coast Counties.

MENDOCINO COUNTY (Pomo)—Grain has been badly injured by the heat. Highest and lowest temperatures, 99° and 59°.

MONTEREY COUNTY (Jolon)—The weather is very hot, and

for ten days the maximum temperature has not been under 100°. Wheat is good both as to quality as well as quantity. No person has been injured by the great heat, but several horses have died working on barvesters. Highest temperature, 110°.

San Luis Obispo County (San Luis Obispo).—Grain harvesting is showing good yields. Highest and lowest temperatures, 99° and 50°. (Paso Robles)—Crops are falling far short of the estimate, and in most cases the grain is badly shrunk.

Mountain Counties.

Siskiyou County (Yreka)—The crops in Little Shasta and vicinity are better than for the past eight years. In the neigbborhood of Gazelle, Edgewood and Scott Valley all grain crops are reported to be tbe best in years. Fruit is scarce; most of it was killed by the late frosts. The apple crop, though somewhat injured by tbe late frosts, will be fair.

Shasta County (Shasta)—The second crop of figs promises to be above the average, while grapes are looking remarkably well. Tbermometer from 98° to 107°.

Trinity County (Douglas City)—The thermometer stood at 110° on Friday.

Inyo County (Modoc)—Many crops will be larger this season than for years, and the prospects for grain were never better.

THE POULTRY YARD.

Rational Feeding of Poultry.

On Saturday of last week there was a meeting of poultrymen at Petaluma to consider the subject of poultry feeding and a lecture on the scientific aspects of fowl nutrition was delivered by Prof. M. E. Jaffa of the State University. The interest taken in the subject of the proper feeding of fowls and the appreciation of the aid that science gives to the poultryman is conclusively shown, he said, by the request for such discussion as that for which the meeting was called, and his undertaking would be to pave the way for an informal exchange of views and experiences of those present and interested in the advancement of the fowl industry.

Economic Aspect of the Matter.—The poultryman of to-day fully realizes that, in the face of low prices and competition, he must, in order that his business may prove profitable, feed the fowls generously, yet at the same time economically. In other words, he must feed rationally. The proper feeding of laying hens and other poultry should be conducted on the same lines as that of other farm animals. There are similar losses and wastes found in the animal organism, and the same necessity for replacing and replenishing the tissues, fluids, etc. of the body.

What the Fowl Requires.—The body of the fowl contains the same elements as are found in that of a cow, or hog, naturally, however, in different proportions. Many of the foods used for poultry are identical with those consumed by the cow and the analyses of the other foodstuffs necessary for poultry show them to have the same ingredients as the foods of larger animals. Hence the principles expounded for the rational feeding of stock apply equally well to the nutrition of fowls.

We must of necessity know the composition of the body of the fowl and of the egg; but after that we do not have to make new laws or found new principles, but merely adapt the knowledge which we have gained from the investigations made for cattle to the hen, modifying rules and rations to suit the case in question.

The scientific research called for, and urgently too, is that of ascertaining the digestibility of the different foods fed to the hen. For the cow, sheep, and swine we have the digestive co-efficient for almost every food consumed, while for the hen we have very little reliable data with which to work, and in view of the great value of the poultry industry it should receive more scientific attention than is at present alloted to it.

Importance of the Poultry Interest.—In order to show that the industry is no small factor in the country's resources, I append herewith a tabular statement of the poultry and egg product in the United States as given by the U. S. census.

Poultry on Hand June 1st.	*1879-1880.*	*1889-1890.*
Chickens—Number	102,265,653	258,472,155
Geese, Ducks, Turkeys—Number	23,234,687	26,816,545
Eggs produced—Dozen	456,875,080	817,211,146

At ten cents per dozen, a very conservative estimate, the egg product on the farm rose from over $45,000,000 to more than $81,000,000—an increase of nearly 80 per cent. There was an increase of 153 per cent in the number of fowls and an increase of about 15 per cent in the ducks and geese in the decade alluded to.

Chemistry of the Hen.—The body of a hen contains from 50 to 60 per cent of water, about 20 per cent of protein or nitrogenous substances, such as flesh, tendons, etc., 18 per cent of fat, between 3 and 4 per cent of ash, that is, mineral or inorganic matter, and about 1 per cent of other matters.

We thus preceive that there is comprised in the formation of the fowl four main elements: water, protein, fat and ash; of these ingredients the only one that may seem strange to some of you is "protein," but the strangeness or unfamilarity will soon disappear when you associate the term "flesh-formers" with that of "protein," "albuminoids," or "nitrogenous material," for in the statement of analyses the last named three are to a certain extent synonymous with "flesh formers."

The capon contains the same elements, but in a somewhat different proportion, there being less water and more fat, as is seen in the following figures for the composition of a mature capon: Water, from 40 to 42 per cent; flesh formers, 20 per cent; fat, 34 per cent; ash, between 3 and 4 per cent; other substances, about 1 per cent.

Chemistry of the Foods.—We thus see that the body is made up of different ingredients, and therefore the food must contain these ingredients or those from which the body can manufacture, so to speak, its nutriment.

It is a well-established fact that in animal nutrition certain elements of the food cannot replace or be substituted for others; consequently we can readily understand why the food must be varied in its character. For instance, if we wish the fowl to increase in flesh or muscle we must in the food have some flesh-forming material or protein. Fat or carbohydrates (starch, sugar, etc.) can never be transformed into muscle. Hence the prominent part which protein plays in the food is strongly impressed upon us.

When feeding growing chickens the main object is to supply sufficient nourishment to ensure their hardy growth. In the case of the mature hen it is a somewhat more complicated proposition. The feeder must bear in mind the fact that the eggs are also the product of the transformation or assimilation of the foodstuffs eaten, and the nature of the ingredients of the nourishment requisite for their production is best seen by an examination of the composition of eggs.

TABLE I.—ANALYSIS OF CALIFORNIA EGGS.

1.—PROXIMATE ANALYSIS.

Shell, 10.81; Yolk, 32.47; White, 56.42; Total, 100.00.

2.—COMPOSITION OF

Contents.	Shell.		Yolk.		White.	
	In 100 Parts.	Referred to Whole Egg.	In 100 Parts.	Referred to Whole Egg.	In 100 Parts.	Referred to Whole Egg.
Water	.....	.....	49.70	16.13	86.48	48.79
Protein	.....	.....	15.54	5.05	12.07	6.81
Fat	.....	.....	33.43	10.85	.23	.13
Carbonate of Lime	93.75	10.14	1.04	.34	.55	.31
Carbonate of Magnesia	.95	.10				
Phosphates	.95	.10				
Alkalies	.....	.....				
Organic Matter and Water	4.35	.47	.....	.....	.....	.....
Undetermined	.....	.....	.29	.10	.67	.38
Totals	100.00	10.81	100.00	32.47	100.00	56.42

Chemistry of the Egg.—From the showing made in Table I we note that the egg consists mainly of three parts, viz.: yolk, white and shell. The yolk and white, according to the data above given, are composed of the same ingredients as the body, viz.: water, protein, fat, and a small percentage of mineral matter, while the shell consists almost entirely of mineral ingredients, carbonate of lime being the most prominent and constituting almost 94 per cent of the shell and over 10 per cent of the entire weight of the egg—that is, in one dozen good-sized eggs there are fully 2.5 ounces of carbonate of lime, familiar to all under the name of marble. We thus have proved to us the absolute necessity of a generous supply of lime in the fowl's diet.

Standard Rations for Fowls.—In feeding farm animals the quantities consumed per day are termed rations and the standards calculated for 1000 pounds live weight; hence, in order that the rations for fowls may be comparable with these standards, we will give the quantity of food required for 1000 pounds live weight:

For 1000 pounds laying hens of about three to four pounds average weight, the food requirement per day would be from 65 to 70 pounds of total food or about 52 pounds of water-free food, containing 9 pounds of digestible protein or flesh formers, 4 pounds of fat and about 20 pounds of carbohydrates or starchy material. Per hen the amounts would be 3¼ ounces of total food, 2¼ ounces of water-free food, .43 ounce of flesh formers and about 1.2 ounce of fat and heat producers.

For 1000 pounds live weight of hens whose weight averages about six pounds, the food requirements per day would be from 40 to 50 pounds of total food, containing 34 pounds of absolutely dry matter which should comprise 6 pounds of digestible protein, 14 pounds of carbohydrates and 2 pounds of fat. If we calculate this for the individual fowl we would have 4¼ ounces of total food, 3¼ ounces of dry matter, with .58 ounce of protein or flesh formers, and 1.54 ounce of fat formers and heat producers.

[In the next issue of the Rural we will proceed with Prof. Jaffa's suggestions on proper rations of the most available food materials.]

HORTICULTURE.

Fungi Injurious to Fruits.

Now that insect depredations have taken a second place in the fruit grower's mind, either because they are less or because he understands better how to cope with them, the question of fungous diseases becomes of first importance. The evils of these parasitic pests are becoming wider spread and their treatment is not so well understood. Although we are continually calling the attention of our readers to these matters, all have not yet given them sufficient heed, and we propose to multiply counsellors. We find in the proceedings of the Oregon Horticultural Society last month a paper by Prof. U. P. Hedrick of the Oregon Agricultural College, which is very suggestive to Californians.

The Best Fungicide.—Remedies and preventives of fungous diseases have been so generally and so well tested in the last few years that their commercial, practical and effective value has been pretty accurately determined. While without doubt a number of the preparations tried are of value, yet it seems that none fill all the requirements as well as Bordeaux mixture, and it to-day is probably far more used than all other fungicides combined. The qualities which recommend it are its cheapness, effectiveness, lack of harm to the plant sprayed, and, lastly, its good effect in cleansing trees, a quality which especially recommends it to Oregon growers because of its destructiveness to the moss. It is not here necessary to go into details as to the manufacture of the mixture; such information can be obtained in any of the bulletins. It is of the utmost importance, however, that the ingredients be rightly combined if a useful mixture is to be secured. All things considered, I believe the following formula to be the best:

Copper Sulphate	4 pounds
Lime	3 pounds
Water	40 gallons

Apple and Pear Scab.—This disease is probably the most widespread and grievous of any we have in the State. While it is not yet bad in all fruit districts, it is spreading so rapidly that it is only a question of time when it will be in every orchard in the State. No disease has been more thoroughly worked out than the apple scab, and the remedy for it is almost sure if properly applied. The following is the treatment: A first application of Bordeaux mixture should be made just as the buds begin to swell; a second before the blossoms open, and a third when the fruit is the size of a pea. Depending upon the weather, one or two other sprayings should be given at intervals of twelve to twenty days.

Apple Canker.—Apple canker is hardly less widespread and destructive than the scab. Apple canker is reported in every part of Oregon. It does the most damage to young trees, but old ones are not exempt, and the injury done by weakening the old trees is far more than we give credit for. Though the life history of the fungus causing apple canker is not well known, yet enough is known to enable us to recommend treatment for it. The disease begins at the beginning of the rainy season as a small dark red spot, which gradually grows larger until dry weather comes. The fungus then seems to lose its vitality and the affected spots dry up and in the course of a few months slough off, leaving an unsightly wound. Treatment must be preventive, therefore spray with Bordeaux mixture before the disease begins in the fall, and I should recommend this to be given just as the leaves are falling. It will do a world of good in keeping other diseases in check as well. If the orchard is badly affected, a good plan would be to give a winter spray of Bordeaux. These, with the sprayings that ought to be given for scab, will keep the canker in check, it being further necessary, however, to always cut the affected parts of bark and wood out. From reports of orchards so treated during the past two seasons I feel confident that apple canker can be kept in check, and think the disease must soon lose its terrors for the Oregon apple grower.

Black or Bitter Rot.—Apples are some seasons seriously injured in all parts of the State by a rot which causes a degeneration of the cells of fruit, making black or brown spots in the apple. The fungus begins work when the fruit is nearly ripe and continues after the crop is harvested. It is the so-called black or bitter rot. The treatment for this rot is essentially the same as for scab. Care should be taken in storing apples to remove affected fruit that the rot may not spread to the sound apples.

Apple Mildew.—The apple mildew attacks the foliage soon after the buds begin to unfold and continues throughout the entire growing season, very much weakening the trees. The affected leaves have a gray appearance, caused by the white, powdery spores which project through the epidermis of the leaf. After being attacked, the leaves soon dry and drop. The mildew, because of favoring conditions of cold and damp weather, has done an immense lot of

damage in the orchards this year. The spraying for scab will keep the mildew in subjection.

Canker and Crater Blight.—The pear is subject to the same diseases in Oregon, practically, as those named for the apple, with the exception of bitter rot and with the addition of pear blight, which is not amenable to fungicides. A pear orchard should receive about the same treatment as an apple orchard. It is, it seems to me, unfortunate that canker on the pear, which is very similar if not identical with the apple canker, should have been rechristened by Prof. Woodworth "crater blight of the pear." It seems to me, too, that the disease is hardly properly called a blight, though that term is very general, since we commonly call auy disease a blight which affects the foliage of a plant more particularly, as the real pear blight, the potato blight, carnation blight, etc. Moreover, nomenclature for diseases is badly mixed without further compounding of names.

Shot-Hole Fungus.—Prunes in Oregon are subject to but two serious diseases—the shot-hole fungus and the gummosis. They may at the present time be found in nine-tenths of the orchards of the State, and are doing, as they do every year, an immense amount of damage. The shot-hole fungus is very easily controlled. The trees should be sprayed with Bordeaux mixture as soon as the leaves appear, the application being repeated at intervals of two or three weeks until the middle of the summer. If it is necessary to spray when the fruit is nearly ripe, substitute for the Bordeaux mixture one of the clear fungicides, to avoid staining the fruit. Two or three applications will be found sufficient. Cherries are affected with the same fungus and should be treated the same.

Cherry Gummosis.—Prunes and cherries are likewise both affected with gummosis, the latter, however, to a much greater extent than the former. Gummosis puzzles the best fruit grower. One reports success with one method of treatment, another with another method. The disease is probably a degeneration of the cell walls of certaiu parts of the plant, and probably caused by a fungus. The gum begins to exude early in the spring, and treatment, it would seem, to be preventive, should begin about as soon as the leaves begin to come out. At present I should not recommend special treatment for gummosis other than those given for the shot-hole fungus, unless it would be a fall spraying. Where practicable, or possible, the disease ought to be cut out; and, I believe, since the favoring conditions generally seem to be a tight bark, that there is some efficacy in splitting the bark carefully. On general principles, I cannot see much in this remedy, but it is recommended by so many, and proof seems so strong as to its value, that there must be something in the remedy. I am inclined to think from observations and experience of others that overcultivation has much to do in bringing about the disease. Another way of preventing the disease in the orchard with cherries is to plant seedlings, and when two years old top-graft with the desired variety. Wherever this has been tried, reports have been favorable to the treatment, and near this city we have a standing example of trees so treated.

A Great Fruit Show at the State Fair.

Every effort is to be made to secure a great fruit display at this year's State Fair which will be held in Sacramento, Sept. 1st to 19th inclusive. The display will be under management of the State Board of Horticulture with B. M. Lelong as superintendent and R. H. Hewitt assistant.

We have just received from the secretary, Edwin F. Smith, an advance copy of the premium list showing the liberal awards offered in this department and certainly they are liberal enough to call out wide competition and they are so new in some of their features that we ought to have a strictly up-to-date exhibition. We shall reproduce some of the more novel features so that readers of the RURAL can have the earliest possible information of what is held out to them.

A.	For most meritorious exhibit in this department	Gold Medal.
B.	For best arranged and most extensive, perfect, and varied exhibit of orchard products	$100 00
C.	For second best arranged and most extensive, perfect, and varied exhibit of orchard products	50 00
D.	For third best arranged and most extensive, perfect, and varied exhibit of orchard products	25 00

Besides these there are offers of premiums aggregating $75 for display of each kind of fruit; apples, pears, table grapes etc., etc., and $50 each for oranges and lemons, and a gold medal for the best lemon, also liberal awards for limes, pomelos, citrons, etc.

Best Display of Perishable Fruits.—In order to offset the difficulty of keeping perishable and delicate fruits during the entire fair, a special exhibit of the following fruits will be made *the second week*, and for which special premiums are offered:

Peaches.—Best display embracing quality and variety, $50; second best, $25; third best, $15; best arranged exhibit, $10; second best, $5; best twelve varieties, $10; second best, $5; third best, $3; best five varieties, $7.50; second best, $5; third best, $3; best packed box for shipment, $5; second best $3; best exhibit of varieties not before exhibited, $10; second best, $5.

Nectarines.—Best display, embracing quality and variety, $50; second best, $25; third best, $10; best arranged exhibit, $10; best twelve varieties, $5; second best, $3; best five varities, $3; second best, $2; best packed box for shipment, $5; second best, $3; best exhibit of varieties not before exhibited, $10; second best, $5.

Plums and Prunes.—Best display, embracing quality and variety, $50; second best, $25; third best, $15; best arranged exhibit, $10; second best, $5; best twelve varieties, $10; second best, $5; third best, $3; best five varieties $7.50; second best, $5; third best, $3; best packed box for shipment, $5; second best, $3; best exhibit of varieties not before exhibited, $10; second best, $5.

Figs.—Best display, embracing quality and variety, $15; second best, $7.50; best twelve varieties, $10; second best, $5; third best $3.

Olives.—The provisions for olive award are new features and are as follows:

For most meritorious exhibit in this class	Silver medal and $25
Second best	15
Best exhibit of pickled olives (ripe)	10
Second best	5
Best exhibit of pickled olives (green)	10
Second best	5
Best exhibit of dried olives (ripe)	10
Second best	5
Best exhibit of olive oil, embracing quality and variety	50
Second best	25
Best exhibit of olive oil, one variety, twelve bottles	10

Dried Fruits.—In addition to special awards for each kind of dried fruit, there are the following general display premiums:

Largest and best exhibit of dried fruit, embracing quality and variety, by producer	$50
Second largest and best	25
Third largest and best	15
Best general display of dried fruits, by factory	25
Second best	15

Exhibitors of dried fruits must furnish written statement of manner of drying and treatment, in full, from time of picking to placing on exhibition.

Dried Fruit Cooking Formulas.—A very unique and attractive display will be that of cooked dried fruit with the recipes used in its preparation. All formulas must be original, and all parties entering for premiums are required to make daily demonstrations during the fair.

Best exhibit of cooked dried fruits, with formulas, to be cooked daily during the fair	$100
Second best	50
Best formula for cooking plums and prunes, pitted and unpitted	5
Second best	3
Best formula for cooking dried apricots	5
Second best	3
Best formula for cooking dried Bartlett pears, peeled and unpeeled	5
Second best	3
Best formula for cooking dried peaches and nectarines, peeled and unpeeled	5
Second best	3
Best formula for cooking dried cherries, pitted and unpitted	5
Second best	3
Best formula for cooking dried figs	5
Second best	3
Best formula for cooking raisins, including seedless raisins and dried grapes	5
Second best	3

Notice must be filed with the secretary of the exhibitor's inteution of exhibiting, so that space may be allotted and the same entered in accordance with the rules before August 22d.

Nuts.—In addition to awards for other nuts, the following great premiums for our two most important commercial products in this line should attract wide attention:

Best and largest exhibit of walnuts, embracing quality and variety	$30 00
Second best and largest	20 00
Best ten varieties of walnuts	15 00
Second best	7 50
Best and largest exhibit of almonds, embracing quality and variety	30 00
Second best and largest	20 00
Best ten varieties of almonds	15 00
Second best	7 50

Special Premium for Preservative Fluid.—Best formula for putting up fruit for exhibition purposes. Must preserve the color of the fruit in the solution, and an exhibit be made during the fair of fruit treated at least one year, $100.

Ants and Fruit Trees.

TO THE EDITOR:—E. A. Jenks asks how to keep little black ants from going up his fruit trees. I can give him a remedy which, I think, will be less trouble and quite as effective as to use printing ink. I have used it successfully on my fig trees for a number of years. I take common white chalk, either lump or powdered, and rub it on the trunk of the tree, making a ring about an inch and a half wide. It is impossible for the ants, big or little, to cross this ring. It will need to be renewed about once a week, but it will not take much to renew after the ring in once made. This remedy will apply to other things besides trees the ants trouble, such as food closets, beehive stands, etc.

The Squirrel Pest.—Now, I would like to ask for a sure cure for the squirrel pest. I have tried poison of different kinds, also smokers; have also tried Wheeler's bisulphide of carbon, and can say that while the poison kills some there are enough left to give a good start for the next season. The smokers and carbon I consider as worthless, having given both a fair trial with no perceptible good.

Now, if any of your readers have a sure remedy I will say that I have got about ten acres of the pests and stand ready to give $25 to any man, woman or child who will clean them out.

Laurel, Santa Cruz Co. W. W. WATERMAN.

Probably our correspondent is expecting too much in hoping for extermination of the squirrels. Like the poor, they will probably always be with us, at least until the State is so closely settled that there is no waste or neglected land upon which they can multiply to recolonize improved and guarded areas. It is almost universal testimony that the bisulphide treatment is very effective when properly applied according to instructions furnished by the manufacturer, and when used while the soil is wet, so that the vapor is not easily dissipated through the porosity of the dry soil. In the dry season a good poison is better. To use both methods, each in its season, is the practice of those who do best work in squirrel destruction. No one expects to annihilate the pests, but by constant treatment the labor and expenditure grow constantly less, unless one is situated in the midst of large neglected breeding grounds. We would like discussion on this subject to bring out the latest and best experiences of all readers.

ARBORICULTURE.

American Nut Growing.

NUMBER VIII.

NAMED VARIETIES OF THE ENGLISH WALNUT.

Owing to the fact that the Persian (English) walnut has been mainly propagated by means of seedlings which exhibit many variations, it is difficult to select distinct types for description. However, in regions where walnuts are largely grown, different strains have been developed which are worthy of perpetuation, and the best of these that have reached us have been illustrated and described.

Barthere.—A French variety recently introduced by Mr. Gillet, described by him as follows: "A singularly-shaped nut, elongated, broad at the center, and tapering at both ends; the shell is harder than that of other sorts."

Chaberte.—An old French variety named after its originator. It is rich in oil and is cultivated on a large scale in the east of France for the oil mills. The tree is said to thrive on less fertile soil than is necessary for Mayette and Franquette. It is late in starting growth in the spring.

Cluster.—This variety is noted for its habit of growing in clusters of 8 to 15 nuts, and in some cases even 20 to 28 nuts.

Drew.—From William P. Corsa, Milford, Del. Size of nut above medium; form oblate, with roundish base and compressed apex; surface moderately smooth, yellowish; shell quite thin, cracking qualities excellent; kernel short, thick, plump, light yellow; meat yellowish white; flavor sweet, rich, slightly astringent; good to very good. The nuts are self-hulling, and ripen with or without frost about October 1. It is a seedling grown from a nut, probably imported, planted about 1875 by the late Andrew Corsa (for whom it has been named), and by him given, when one year old, to his brother on whose farm in Sussex County, Del., the original tree now stands.

The tree remains dormant until late in May, the blossoms thus escaping injury by frost. It commenced bearing in 1890, and has yielded an increasing quantity each year since.

Ford (Softshell).—From George W. Ford, of Santa Ana, Cal., by whom they are being propagated. From selections made in 1880 of some of the best and largest nuts from trees previously introduced into Santa Barbara county, Mr. Ford has grown orchards of bearing trees which have gained considerable reputation among walnut growers. It is claimed for these nuts that besides being soft-shelled they have admirable keeping qualities, and that the trees are abundant croppers. As Mr. Ford propagates entirely from seed, there is some variation in the forms of the nuts and no distinct variety has been selected for propagation. Mr. Ford's nuts average well, and are much superior in thinness of shell and quality of kernel to the common Los Angeles nut.

Franquette.—Form long; size quite large. A French variety named after its orignator, by whom it was propagated in the early part of the century. By Mr. Gillet it is rated with Mayette and Parisienne as very choice in quality, regular in form, hardy in tree, and late in starting growth in spring. These three varieties supply the finest walnuts produced in the southern portion of France, where they are exclusively grown on grafted trees and are the kinds most generally grown.

Gant, or Bijou.—A very large French nut, the kernel of which often fails to fill the shell. The names are derived from the uses to which the shells are sometimes put in France, being used as glove or jewel boxes.

Grand Noblesse.—A very fine nut, of which speci-

mens were received by Division of Pomology from L. L. Bequette, of Rivera, Cal.

Lanfray.—A large imported variety catalogued by Mr. Gillet.

Mammoth.—French. "This is an immense nut, the largest of all, much larger than Gant, or Bijou." —Gillet.

Mayette.—Form broad; size above medium. This is one of the finest dessert nuts, and is quoted at the highest prices in the market. The nuts are above medium in size, full kerneled and sweet. Its habit of starting growth late in the spring makes it of special value to growers in the United States. It is thus likely to escape disastrous effects of late spring frosts.

Mesange.—A very thin-shelled French variety that is claimed to be especially desirable for pickling when green. Nuts sometimes injured by the birds, which puncture the hull and shell and extract the meat.

Meylan.—Recently introduced from France by Felix Gillet. Said to have originated near the village of Meylan, where it is much cultivated for export.

Mission (Los Angeles).—This nut was introduced by the priests at Los Angeles and is the pioneer Persian walnut of California. Most of the bearing orchards of the State are composed of seedling trees of this type. The nut is of medium size, with a hard shell of medium thickness. It succeeds admirably in a few favored districts but fails in productiveness in many sections. Its most prominent faults are early blooming, in consequence of which it is often caught by late frosts; the irregular and unequal blooming of its staminate and pistillate blossoms and the consequent failure of the latter to be fertilized and to develop nuts; lateness in ripening its wood in the fall and consequent liability to injury by frost at that time. In sections where it does not succeed the trees of this variety should be top-grafted or budded with hardier varieties.

Parisienne.—Originated in southeastern France and named in honor of the capital. Nut large, truncated at apex. Said to be as late in blooming as Mayette.

Poorman.—Recently introduced by Mr. Gillet.

Proparturiens (Fertile).—Size medium; shell rather hard; kernel delicious. This variety originated about forty years ago in France. It bears at an early age, as its name implies. It blooms from two to four weeks latter than the Mission, and is thus likely to be injured by late frosts. Its male and female blossoms mature simultaneously. It is very hardy and ripens its wood well before winter. Its habit of growth is more dwarfish than some others. It is productive. Until 8 or 9 years of age the trees of this variety are said to produce no male blossoms, though female flowers or nutlets are frequently found even on very young trees. Such nutlets may be grown to maturity if pollen is supplied from other walnut trees in the neighborhood. For the family garden Mr. Gillet thinks this variety has superior claims in quality of kernel, thickness of shell, fruitfulness, and precocity in bearing. Mr. Gillet reports that in 1882 grafts of this variety were set in a large walnut tree a Nevada City. The tree was 21 years old and measured 2½ feet in diameter, but had previously borne only 17 nuts, all in one year. In 1884 those grafts bore over 400 nuts, and in 1887 their yield was 5 bushels. Mr. Gillet asserts that the trees grown in California, from nuts borne on trees grafted from the imported, bear nuts of larger size than the parent trees. These he designates "second generation" trees. Seedlings from these (third generation), he says, show a marked deterioration in size, though they retain the thin shell and good quality.

Santa Barbara (Softshell.).—This variety is about ten days later than the Mission in starting growth and in blooming in the spring. It fruits at from four to six years from seed, and usually produces a full crop every year. It is not as strong a grower as the common walnut (Mission), and more trees can be planted to the acre. The shells are thin and easily broken, consequently the nuts are sometimes damaged in long shipment. The kernel is white and of very fine quality.

Serotina (Late Walnut, St. John).—A nut of medium size, with high-flavored kernel. This is perhaps the latest walnut in putting forth growth in the spring on the Pacific Slope, and for this cause it is especially selected by planters for sections liable to have late frosts. It is an old French variety described by Loudon. Mr. Gillet says: "It is this variety that produces the 'After St. John walnut,' nurserymen marking out every Serotina in nursery rows that puts forth [blossoms?] about St. John's day [June 24], and selling such trees under the name of 'After St. John walnut.'"

Sexton (Papershell).—Named and propagated by Joseph Sexton, of Goleta, Cal. It is a very thin-shelled nut of good quality. It is about ten days later starting growth in the spring than the Mission nut. It is more upright in growth of tree than the Mission, and for this reason is set in by Mr. Sexton at 40 by 40 feet.

Vourey. — Recently introduced from southern France. Similar to Mayette in form, and said to be one of the hardiest varieties yet introduced.

AGRICULTURAL SCIENCE.

Outlines of the Lectures at Camp Roache.

In our last issue we gave brief outlines of the first week's lectures at the summer school in the Santa Cruz mountains. These outlines are prepared by attendants at the school and are, of course, only suggestive of the lines followed by the speakers. Below we proceed with the agricultural lectures of the second week.

Soil Formation.—Prof. E. W. Hilgard opened the week with a lecture on soils. He said that it was of interest to know how soil was formed. The action of water by freezing is as powerful and certain as dynamite. Water entering rocks and freezing breaks and reduces them, whether the pieces are large or small. Rains wash them from the mountains to the valleys, and they grow smaller as they go.

Then chemical action begins to work. The acids and other elements in the rock meeting each other, under proper conditions of moisture form new combinations and prepare the decomposed rock to support plant life.

Glacial action where it has existed has been a very important factor, grinding vast quantities of rock to fine powder. In the chemical action carbonic acid is an important solvent. It exists in all water and in the air in minute quantities, but, being always at work, is effective. The other most important disintegrating factor is oxygen. By the action of these two substances, with heat and moisture, soils are formed.

The farmer must become accustomed to the chemical terms, but of the many in use he needs to learn not more than a dozen or so, and of the thousands of different minerals he needs only know about the same number. The elements essential to plant life exist in the soil in minute quantities, not more than one-half of 1 per cent of the total, all told. This makes it possible to supply them as they become exhausted. The soils of the arid regions of the West are richer than Eastern soils, because the essential elements have not been leached out of them.

The minerals from which most soils are derived are quartz, hornblende and the feldspars. By knowing these minerals and their appearances when decomposed the farmer can judge of the quality of the soil and what to apply when its productive power gives out. California soils are rich in lime and potash, but are relatively poor in phosphoric acid. Nitrogen in fruit soils in California is nearly always abundant. The humus of the average California soil contains about three times as much nitrogen as the humus of an average Eastern soil.

The problems of dealing with California soils are new, because this is the first time that the Anglo-Saxon race has come in contact with arid lands. We do not yet know nearly all the facts necessary to guide us in fertilizing, but we do know that we cannot depend on the data collected from Eastern and European sources.

The Soil and the Plant.—Prof. Hilgard's second lecture was upon "The Soil and Plant." He exhibited a very elaborate table showing the amount of soil ingredients taken from the ground by many different varieties of crops, such as grapes, prunes, olives, wheat, etc., and laid especial stress on those ingredients which are most essential to the plant life, viz., potash, lime, phosphoric acid and nitrogen.

The table, which is incorporated in the annual report of the Agricultural College at Berkeley, showed the amounts of the different ingredients taken by the different parts of the crop, such as the pits, flesh and wood, in case of grapes clearly bringing out the importance of analyzing the soil, ascertaining just what ingredients the different parts of the crop take out and then returning to the ground those portions which do not make good returns. He strongly urged the use of fertilizers before the ground is almost completely used up, because that involved a very much larger outlay at one time than would be otherwise necessary.

Prof. Hilgard spoke of the discovery recently made by a man in Germany which he considered the most beneficial to agriculture of all recent discoveries, that a form of bacteria inhabits all leguminous or pod-bearing plants, causing little excrescences on the roots, which contain nearly 50 per cent of nitrogen. After a certain time these bacteria die and leave the nitrogen for the use of the plant. Therefore he advised the planting of some of the plants of this variety, naming the common California vetch, for use on thin soils. He cited instances where by the use of this plant nitrogen was supplied at a cost of about 6 cents, as against 17 cents in the market.

In closing Prof. Hilgard made a strong plea for a greater use of the College of Agriculture by farmers, especially by sending their sons there. He said that just such gatherings as these at Camp Roache are needed to make the farmers of California appreciate the fact that from now on science and not muscle will be the chief factor of success in the practice of husbandry. He wished there were 10 similar schools in the State.

Significance of Form in Plants and Animals.—This was the subject of the first lecture by Prof. E. J. Wickson, and in his discourse he considered the more obvious matters of form, as manifested in improved agricultural practices and products, with the attempt to show what they teach us of themselves and what they teach us of our ourselves.

"Improved forms of what?" said the professor. "Everything in agriculture, practice and tools, animals, fruits and flowers. All are wonderful departures from early forms, all probably rude and imperfect as compared with what they will be generations to come, but, as they are, they are the exponents of our progress and the embodiment of the deepest thought and most determined effort of the larger part of the human race during all the courses of history.

To show some of the most striking achievements, Professor Wickson compared the modern riding gang with the forked style of olden times, our combined harvester with the old-fashioned flal, our high breeds of stock with the cattle hunted in the time of Julius Cæsar. All of these wonderful improvements be attributed to the use of the imaginative powers of man and his attempt to reach the high level of his ideals." This lead the speaker to an analysis of the industrial use of the imagination as the creative power of the mind and to the importance of trained powers of observation and the ability to arrive at sound conceptions of the relation of things as the foundation of agricultural progress. The discussion which followed was mostly on the subject of scientific education, which Professor Wickson thought the greatest need of our times, from an agricultural point of view.

Irrigation and Rainfall.—Prof. Wickson's second lecture was on "Irrigation and Rainfall." He described the conditions existing in arid America, the colonizing and other enterprises. He spoke of the opposition of Eastern farmers to the developments of the arid lands with public money, and answered the Eastern contention by citing the fact that the arid districts are the only remaining openings for the surplus population of the East and will furnish employment for Eastern capital.

The development of irrigation in the States bordering the Missouri, he said, was proceeding mainly and successfully by bringing to the surface by artesian or other wells the subterranean waters, making use for that purpose of the abundant wind power of those regions. In the practice of irrigation in California many failures have arisen, the speaker said, from the excessive, untimely or irregular use of the water. There may be too little, too much or just enough moisture in the soil, but whether the supply is regulated from ditches or from the clouds makes no difference.

Over or under irrigation effects fruit injuriously. Fruit cannot have good size, texture or flavor without sufficient moisture. The question is what is sufficient, and to this there is no definite answer, the quantity required constantly varying with varieties and with seasons, soil and exposure. Whether or not irrigation will be profitable in any district can be best told by the appearance of the crops under good cultivation. If an orchard does not have a deep, rich green during the growing season, or if the trees shed their leaves early in the fall, or if the fruit is persistently small, irrigation at a reasonable expense will probably pay.

The California Garden.—At his last lecture Prof. Wickson discussed the farmer's garden. The matter considered was not the probability of all farmers raising their own vegetables, but the possibility of their so doing in California at a profit. The Professor stated that the culture both of vegetables and flowers is rapidly increasing in California. He alluded to the influence of the carnivals, now so common in this State, in promoting the culture of flowers. While there was of course a commercial element in all the fiestas having no connection with floriculture, yet all the same the impulse which they communicate to the culture of flowers has been extremely valuable.

Considering our long season of blooming, the infinite variety of our flowers, the rapidity of their growth and the wealth of their bloom, it must be conceded that there is hardly any other part of the world which promises so much to the lovers of flowers.

There are three requisites for successful floriculture. First, a real love of flowers; next, a plenty of water, and last, and most important of all, the willingness to do a lot of work. If work cannot be done at the proper times, either in the flower or the vegetable garden, it is folly to plant. One will simply lose the labor of planting.

But before one should justify himself for planting no garden because he cannot find time to attend to it, he must satisfy himself that he really has no time. As a matter of fact, a multitude of farmers who have supposed they had no time have discovered within the past year or two that they have plenty of it. In watering, water abundantly rather than often, but it is impossible to give fixed rules for this practice without considering the character of the soil and the requirements of the plant.

THE ORNITHOLOGIST.

Bird Day in the Schools.

Dr. T. S. Palmer of California, now acting chief of the Division of Biological Survey of the Department of Agriculture at Washington, has just issued a special circular entitled "Bird Day in the Schools." The main proposition advanced is to establish a Bird Day on the same general plan as that of Arbor Day, which is now observed so widely in the schools of the United States. The Arbor Day establishment was first urged twenty-five years ago by Hon. J. Sterling Morton, Secretary of Agriculture, and Mr. Morton heartily approves Bird Day also. In a letter on the subject he used these words:

Wanton Destruction of Birds.—It is a melancholy fact that among the enemies of our birds two of the most destructive and relentless are our women and our boys. The love of feather ornamentation so heartlessly persisted in by thousands of women, and the mania for collecting eggs and killing birds so deeply rooted in our boys, are legacies of barbarism inherited from our savage ancestry. The number of beautiful and useful birds annually slaughtered for bonnet trimmings runs up into the hundreds of thousands, and threatens, if it has not already accomplished, the extermination of some of the rarer species. The insidious egg-hunting and pea-shooting proclivities of the small boy are hardly less widespread and destructive. It matters little which of the two agencies is the more fatal, since neither is productive of any good. One looks to the gratification of a shallow vanity, the other to the gratification of a cruel instinct and an expenditure of boyish energy that might be profitably diverted into other channels. The evil is one against which legislation can be only palliative and of local efficiency. Public sentiment, on the other hand, if properly fostered in the schools, would gain force with the growth and development of our boys and girls and would become a hundredfold more potent than any law enacted by the State or Congress. I believe such a sentiment can be developed, so strong and universal that a respectable woman will be ashamed to be seen with the wing of a wild bird on her bonnet, and an honest boy will be ashamed to own that he ever robbed a nest or wantonly took the life of a bird.

Bird Day Already Observed in Pennsylvania.—Bird Day is more than a suggestion. It has been already adopted in at least two cities with marked success, but as yet is still an experiment. Apparently the idea originated with Prof. C. A. Babcock, superintendent of schools in Oil City, Pa., and the day was observed in 1895 and 1896. The exercises last May consisted of original compositions by the pupils, containing the results of their observations of birds, of talks by pupils and teachers, comparing observations, giving localities of bird haunts, and general exchange of bird lore; of recitations from eminent prose writers on birds, and from the poets; finally many of the schools closed their exercises by a trip to the woods to listen to the vesper concert of our feathered brothers. We begin the study of birds on January 1st and continue till June, studying those that stay all winter and trying to keep account of the new comers as they arrive. We devote two periods, of twenty minutes each, per week to this study. Bird Day is a summary or focusing of the work of the year. The results of bird study and of Bird Day are interesting. Our children generally know most of our bird residents; they also love them, and feel like protecting them. There has been a complete change in the relations existing between the small boy and the birds.

Object of Bird Day.—From all sides come reports of a decrease in native birds due to the clearing of the forests, draining of the swamps and cultivation of land, but especially to the increasing slaughter of birds for game, the demand for feathers to supply the millinery trade, and the breaking up of nests to gratify the egg-collecting proclivities of small boys. An attempt has been made to restrict these latter causes by legislation. Nearly every State and Territory has passed game laws, and several States have statutes protecting insectivorous birds. Such laws are frequently changed and cannot be expected to accomplish much unless supported by popular sentiment in favor of bird protection. This object can only be attained by demonstrating to the people the value of birds. And how can it be accomplished better than through the medium of the schools? Briefly stated, the object of Bird Day is to diffuse knowledge concerning our native birds, and to arouse a more general interest in bird protection. As such it should appeal not only to ornithologists, sportsmen and farmers, who have a practical interest in the preservation of birds, but also the general public, who would soon appreciate the loss if some of the songsters were exterminated.

Methods of Bird Study.—The study of birds may be taken up in several ways and for different purposes; it may be made to furnish simply a course in mental training or to assist the pupil in acquiring habits of accurate observation; it may be taken up alone or combined with composition, drawing, geography or literature. But it has also an economic side which may appeal to those who demand purely practical studies in schools.

Economic Value of Bird Study.—Economic ornithology has been defined as the "study of birds from the standpoint of dollars and cents." It treats of the direct relations of birds to man, showing which species are beneficial and which injurious, teaching the agriculturist how to protect his feathered friends and guard against the attacks of his foes. This is a subject in which we are only just beginning to acquire exact knowledge, but it is none the less deserving of a place in our educational system on this account. If illustrations of the practical value of a knowledge of zoology are necessary they can easily be given. It has been estimated recently that the forests and streams of Maine are worth more than its agricultural resources. If this is so, is it not equally as important to teach the best means of preserving the timber, the game, and the fish, as it is to teach students how to develop the agricultural wealth of the State? In 1894 Pennsylvania passed its famous "scalp act," and in less than two years expended between $75,000 and $100,000 in an attempt to rid the State of animals and birds supposed to be injurious. A large part of the money was spent for killing hawks and owls, most of which belonged to species which were afterwards shown to be actually beneficial. Not only was money thrown away in a useless war against noxious animals, but the State actually paid for the destruction of birds of inestimable value to its farmers. During the last five or six years two States have been engaged in an unsuccessful attempt to exterminate English sparrows by paying bounties for their heads. Michigan and Illinois have each spent more than $50,000, but, although millions of sparrows have been killed, the decrease in numbers is hardly perceptible. A more general knowledge of the habits of the English sparrow at the time the bird was first introduced into the United States would not only have saved this outlay of over $100,000, but would also have saved many other States from loss due to depredations by sparrows.

Is it not Worth Attention?—Dr. Palmer in closing his circular makes the following forcible suggestions: Is it not worth while to do something to protect the birds and prevent their destruction before it is too late? A powerful influence for good can be exerted by the schools if the teachers will only interest themselves in the movement, and the benefit that will result to the pupils could hardly be attained in any other way at so small an expenditure of time. If it is deemed unwise to establish another holiday, or it may seem too much to devote one day in the year to a study of birds, the exercises of Bird Day might be combined with those of Arbor Day.

THE DAIRY.

Hints on Swiss Cheese.

Our manufacturers of fancy cheese may profit by some hints on Swiss cheese making which a Wisconsin maker gives *Hoard's Dairyman*. They relate directly to the securing of the distinctive character andquality of this delicious product.

A Difficult Art.—No one ever learned how to make Swiss cheese, or any other kind, solely from reading directions. Only from actual practice, under the direction of competent workmen, can all of the details, great and small, be acquired which go to the making of a good cheese, with holes of proper form, size and number, and even an expert cheesemaker cannot make all of his cheese uniform in that respect. So much depends on the quality of milk, the season, the food, and the condition of the cows, that it is impossible to adapt and change the process of making to allow for unusual conditions.

The Right Kind of a Hole.—The holes in finest cheese to be Standard No. 1 should be round, or nearly so, not smaller than a small pea nor larger than a small hazelnut. An intelligent, careful and expert maker will have three-fourths or more cheese of this description. A careless, ignorant man will have a much smaller proportion. The proportion not No. 1 will be made up of the following kinds: blind cheese, firm, solid with few or no holes of any kind; fissure cheese, with a few holes, but mainly fissures, which often appear to be holes, which instead of becoming round and remaining so, had collapsed and spread out flat. Such cheese is mostly of good rich taste and flavor, as good as No. 1, but fails to make the fine appearance on the table required in Swiss cheese, hence it goes up for No. 2. Bloated cheese, with too many and too large and badly shaped holes, giving the cheese a torn, irregular appearance. This is often tough, bitter and tasteless, and is said to be caused by too much rennet, too high heat in making or curing, and very often is due to milk in bad condition, from any cause. Then there is the kind with many and small holes, not usually of fine flavor, often bitter, and not rich or tender.

A Matter of Curing.—All of these holes, or attempts at holes, are formed by gases, which develop during the early part of the process of ripening, which takes fully three months. Cheese, if kept too cold, below 65° or 70°, will ripen very slowly, the gases not properly develop, and the holes will be small and few. If too much heat prevails during the early period, the holes will be too large, irregular and too numerous, especially if the rennet be too active or too much in quantity. If ripening be checked by sudden cold, the holes may collapse and become fissures. In short, the holes and their character are always entirely due to proper or improper temperature during the ripening process, and their numerous variations in size and number can be traced largely to the care or want of care in regulating the temperature of the curing rooms. The best cheese factories have two curing rooms, that for the first stage supplied with heaters, and that for the second, without, but so built as to have an even temperature nearly all the the time. The slightly moulded edges and sides of cheese, on shelves, indicate, without tester, the No. 1 cheese, with proper holes, as surely as that flat, sunken sides and edges indicate blind and fissure cheese, and the bulging shape the bloated article.

In Swiss cheese, of the finest quality, the holes are often so regular in size and frequency as to excuse the sometime supposition, by some of the uninformed, that they are made by some machine or instrument.

The Filled Cheese Business Killed.

If we can believe all that we read, the last legislation in favor of pure dairy products is effective and the dairymen can congratulate themselves that they have learned how to secure such laws as they need for their own protection. The dairymen have, in fact, surpassed all producers in securing protection from adulteration, and the wine, honey and olive men should all go to the dairy legislative school if they can find out where it is.

Manufacturers Give It Up.—According to the Chicago *Tribune* the recently enacted filled cheese law has practically killed that industry in Illinois. Thomas G. English, a deputy, has reported to Collector Mize the result of his month's examination and investigation of the business. He was unable to find a single one of the 130 manufacturers in the district who intends to manufacture under the law. All agreed that its terms were prohibitory.

The filled cheese industry along the Fox river and the adjacent dairy sections of the State had grown to large proportions. Last year's business aggregated $1,000,000. A few manufacturers may continue for the export trade.

Provisions of the Law.—The terms of the law are far reaching, and were undoubtedly drawn to kill off the business. A manufacturer must pay an annual tax of $400 and 1 cent a pound tax on his product. The cheese must be stamped on the top and bottom and four places on its sides with a stamp of not less than 2 inches, "Filled Cheese." The wholesale dealer must pay an annual tax of $250. The prohibition comes into play on the retailer. He must place a sign outside his place of business, in letters of not less than 6 inches, "Filled Cheese Sold Here." He must also pay an annual tax of $12.

Great Amounts.—The law goes into effect on September 1st. Manufacturers along the Fox river region are already shutting down their establishments and working off their stocks. Last year the factories made 14,000,000 pounds, of which amount 3,000,000 pounds were exported. This shows how large a volume of bogus cheese must now be replaced by a straight full cream or skimmed product, without introduction of foreign fats.

The Nicaragua Canal.

The report of the Committee on Interstate and Foreign Commerce to the House of Representatives, recommending the financial aid of the Government in the completion of the Nicaragua canal, has been issued from the Government Printing Office. The committee say that the advantages to be derived from the construction of this great interoceanic waterway are so vast, that the canal should be built, even though the cost of construction exceed the figures of the Board of Engineers. In their opinion, the Government should assist the company in the completion of the work, even if it costs over $150,000,000; but if, as they believe, it can be constructed for about $100,000,000, so much the better. The canal should be built as a matter of national need.

That Fly Expellant.

To the Editor:—Please state in the columns of your paper whether, while using the remedy for driving away flies (seen on page 9 of the Rural of July 4th), it would be harmful for a person to remain in the room. A Subscriber.
Red Bluff.

We should regard the treatment innocuous to higher animals because of the extreme dilution of the substances in the vapor, though they are in themselves powerful.

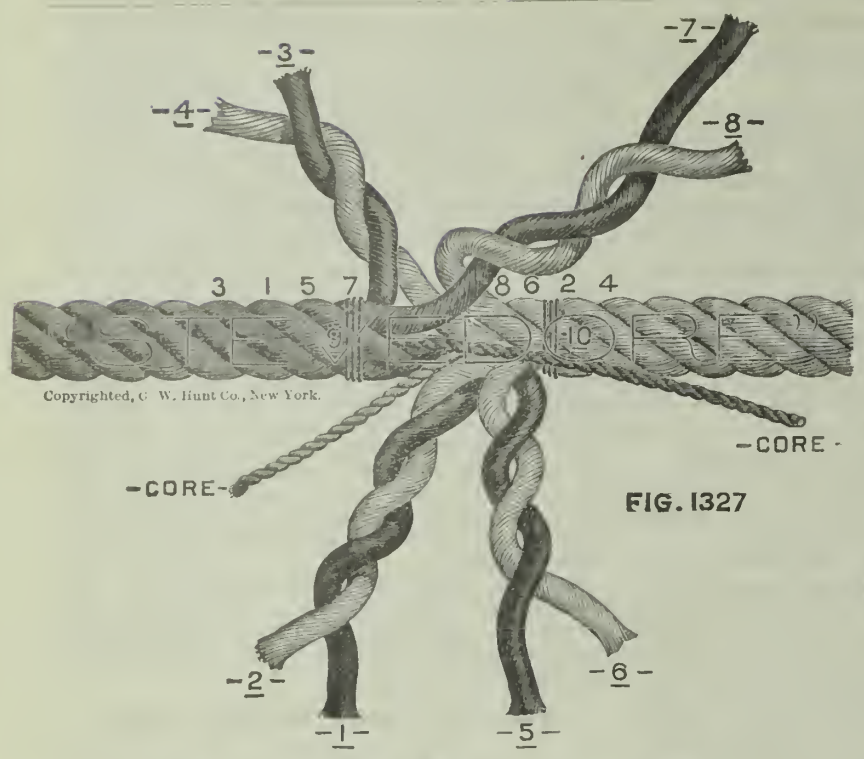


FIG. 1327

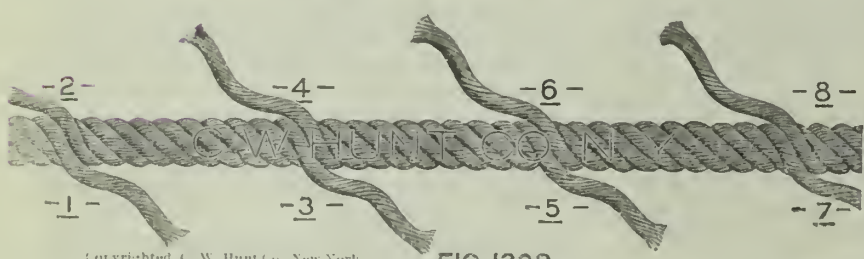
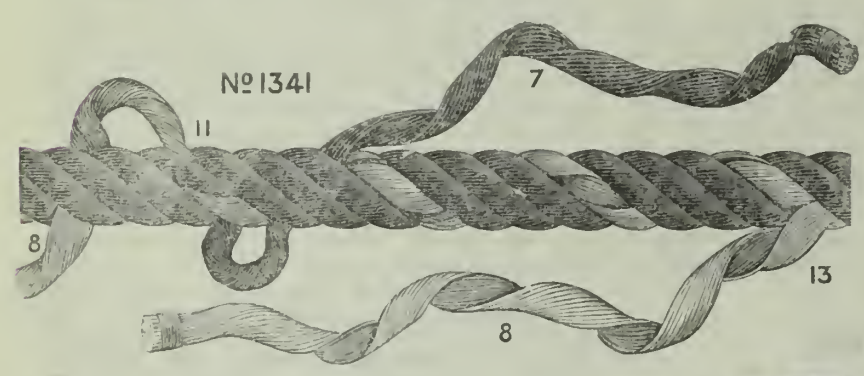
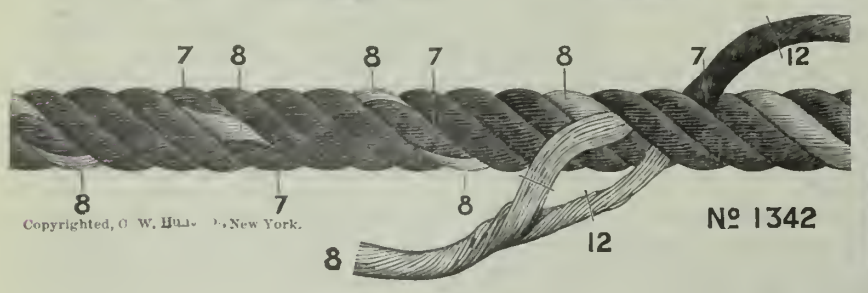
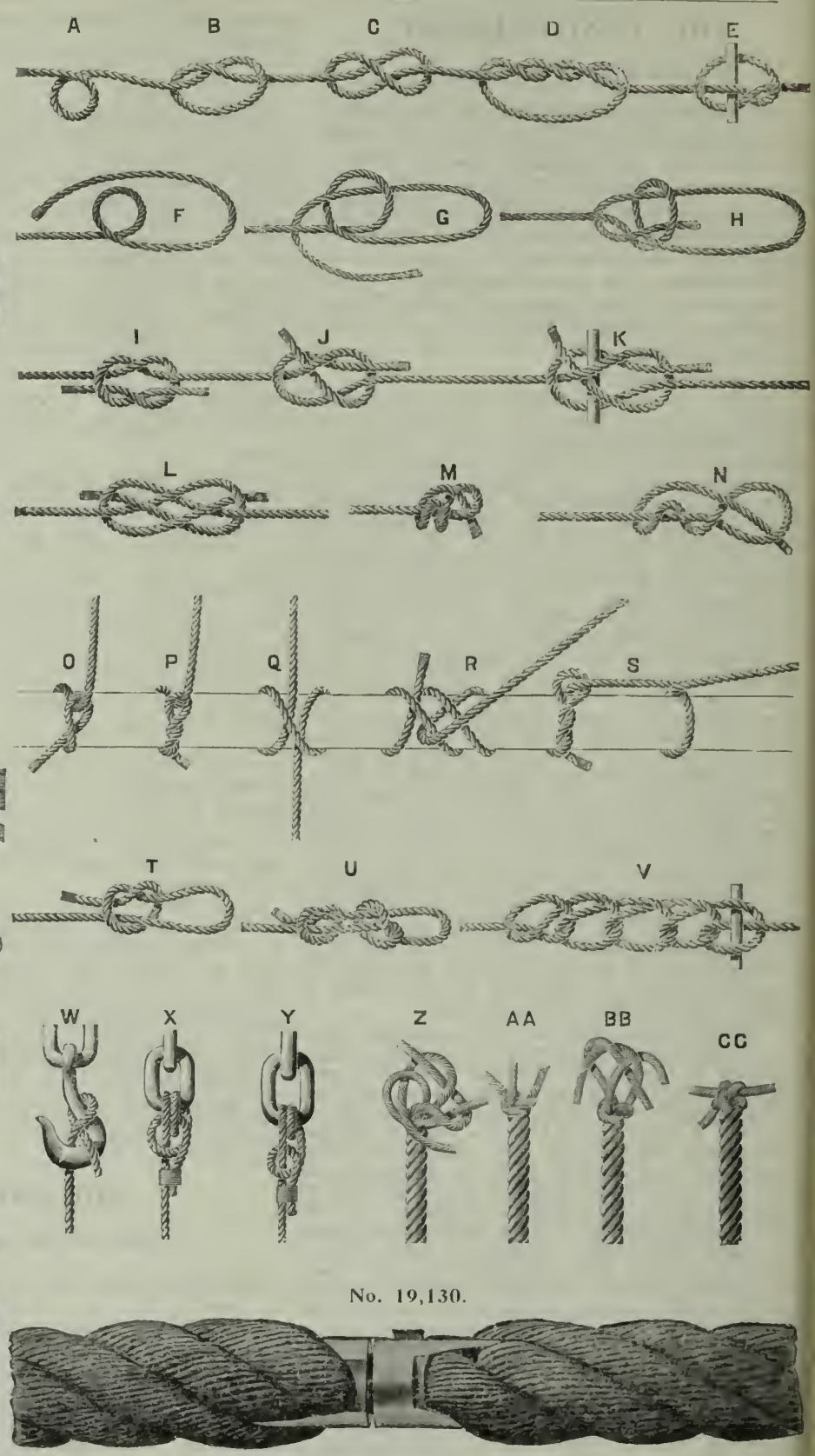


FIG. 1328







KNOTS AND SPLICES IN MANILA ROPE.

Knots and Splices in Manila Rope.

Some recent inquiries about the details of knots and splicing in ropes led to the belief that an illustrated article on that subject would be of practical interest. The best information on the subject that has recently come under our observation is contained in a pamphlet issued by the C. W. Hunt Co., 45 Broadway, N. Y., to whose courtesy we are indebted for the illustrations on the front page of this issue and much of the description.

To properly splice a rope or to tie a knot that will not slip, is quite an acquisition. The splice in a transmission rope is not only the weakest part of the rope but is the first to fail when the rope is worn out. If the splice is not strong the rope will fail by breakage or pulling out of the splice. If the rope is larger at the splice, the projecting parts will wear on the pulleys and the rope fail from the cutting off of the strands.

To profit by the experience of others, do not put in a "short splice" or an ordinary "long splice," or get an "old sailor" to do the work, but have some handy man follow the directions given herewith for a splice in a 4-strand rope.

Fig. 1327, 1328, 1341 and 1342, show each successive move in splicing a 1¾ inch manila rope. Each engraving was made from a full size specimen and accurately shows the position of the parts. Tie a piece of twine 9 and 10, around the rope to be spliced about six feet from each end. Then unlay the strands of each end back to the twine. Butt the ropes together and twist each corresponding pair of strands loosely, to keep them from being tangled, as shown in engraving No. 1327.

The twine 10 is now cut, and the strand 8 unlaid and strand 7 carefully laid in its place for a distance of 4½ feet from the junction. The strand 6 is next unlaid about 1½ feet and strand 5 laid in its place. The ends of the cores are now cut off so they just meet. Unlay strand 1 four and a half feet, laying strand 2 in its place. Unlay strand 3 one and a half feet, laying in strand 4. Cut all the strands off to a length of about 20 inches, for convenience in manipulation.

The rope now assumes the form shown in Fig. 1328, with the meeting points of the strands 3 feet apart. Each pair of strands is successively subjected to the following operation: From the point of meeting of the strands 8 and 7, unlay each one three turns; split both the strand 8 and the strand 7 in halves as far back as they are now unlaid and the end of each half-strand "whipped" with a small piece of twine.

The half of the strand 7 is now laid in three turns and the half of 8 also laid in three turns. The half strands now meet and are tied in a simple knot, 11 (engraving No. 1341) making the rope at this point its original size. The rope is now opened with a marlin spike and the half-strand of 7 worked around the half-strand of 8 by passing the end of the half-strand 7 through the rope, as shown in the engraving, drawn taut and again worked around this half-strand until it reaches the half-strand 13 that was not laid in This half-strand 13 is now split, and the half-strand 7 drawn through the opening thus made and then tucked under the two adjacent strands, as shown in cut No. 1342. The other half of the strand 8 is now wound around the other half-strand 7 in the same manner. After each pair of strands has been treated in this manner, the ends are cut off at 12, leaving them about 4 inches long. After a few days' wear, they will draw into the body of the rope or wear off, so that the locality of the splice can scarcely be detected.

The stretch of a transmission rope during its life is no greater in amount than that of a leather belt, yet it is a material amount, and when several ropes run side by side on a pair of pulleys, the different ropes are likely to wear unevenly, and some sag more than others—so much so, in some cases, as to materially increase, not only the wear of the ropes themselves, but to increase the friction loss in the transmission. The gradual lengthening of the rope in service may decrease the tension until the rope slips on the pulley, making it necessary either to resplice the rope or to use a take-up sheave with a long range of motion.

This difficulty, however, can be completely obviated by the use of the rope coupling shown in cut No. 95,130. This coupling is smaller than the rope, so that it does not touch the pulleys. It is made in two parts, which are secured together when the rope is put on the pulleys, containing an inside ratchet, by which the two parts can be rotated and locked in any desired position. When the rope has stretched any perceptible amount, the two parts of the

coupling are turned in opposite directions, putting more "turns" in the rope, thus shortening it any desired amount. In this manner all the ropes of a multiple drive can be kept at the same tension with the greatest exactness.

A great number of knots have been devised of which a few only are illustrated, but those selected are the most frequently used. In the engravings they are shown open, or before being drawn taut, in order to show the position of the parts. The names usually given to them are: A, Bight of a rope; B, Simple or overhand knot; C, Figure 8 knot; D, Double knot; E, Boat knot; F, Bowline, first step; G, Bowline, second step; H, Bowline completed; I, Square of reef knot; J, Sheet bend or weaver's knot; K, Sheet bend with a toggle; L, Carrick bend; M, Stevedore knot completed; N, Stevedore knot commenced; O, Half-hitch; P, Timber-hitch; Q, Clove-hitch; R, Rolling-hitch; S, Timber-hitch and half-hitch; T, Slip knot; U, Flemish loop; V, Chain knot with toggle; W, Blackwall-hitch; X, Fishermen's bend; Y, Round turn and half-hitch; Z, Wall knot commenced; AA, Wall knot completed; BB, Wall knot crown commenced; CC, Wall knot crown completed.

The principle of a knot is that no two parts, which would move in the same direction if the rope were to slip, should lay alongside of and touching each other.

The bowline is one of the most useful knots; it will not slip, and after being strained is easily untied. It should be tied with facility by everyone who handles rope. Commence by making a bight in the rope, then put the end through the bight and under the standing part as shown in G, then pass the end again through the bight, and haul tight.

The square or reef knot must not be mistaken for a "granny" knot that slips under a strain. Knots H, K and M are easily untied after being under strain. The knot M is useful when the rope passes through an eye and is held by the knot, as it will not slip and is easily untied after being strained.

The timber-hitch, S, looks as though it would give way, but it will not; the greater the strain the tighter it will hold. The wall knot looks complicated, but is easily made by proceeding as follows: Form a bight with strand 1 and pass the strand 2 around the end of it, and the strand 3 around the end of 2 and then through the bight of 1 as shown in the engraving Z. Haul the ends taut when the appearance is as shown in the engraving AA. The end of the strand 1 is now laid over the center of the knot, strand 2 laid over 1 and 3 over 2, when the end of 3 is passed through the bight of 1 as shown in the engraving BB. Haul all the strands taut as shown in the engraving CC.

The treatise referred to on ropes used for the transmission of power contains formulæ, tables and data useful in engineering, and is of practical value. Those interested in the matter would do well to send for the pamphlet to the above address.

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An Unsolicited Testimonial.

From the Democrat, Atlanta, Texas.

"Being constantly asked by many of my friends if Dr. Williams' Pink Pills for Pale People were doing me any good, I offer this unsolicited testimonial and answer. Never having seen a well day since I had typhoid fever last summer, I could retain scarcely any food, my limbs and joints ached and pained all the time. It was misery to me to rise up in bed and my mind was clouded, in fact, I was a physical wreck, and I felt that my life was drawing to a close, and I must confess it was without regret on my part, as my sufferings were almost unbearable.

"Since I commenced to take Dr. Williams' Pink Pills, at the solicitation of my wife, I have taken four boxes, and I feel like a new man. My appetite is good and I now retain what I eat, my limbs and joints are free of pain and I have gained ten pounds in weight. My life feels renewed and while not yet entirely well, I feel so much better that I unhesitatingly assert that I believe Pink Pills for Pale People a good medicine for what they are recommended. Knowing that no medicine will save life under all circumstances and in all cases, yet I do honestly believe that they have prolonged mine, or at least, where all was dark and gloomy and full of suffering it has been changed for the better.

"The manufacturers of this medicine do not know of my taking it. Neither am I paid for this statement, but give it freely in answer to friends and the editor of this paper.

[Signed] JOHN BAUGRESS, Atlanta, Texas."

Sworn to and subscribed before me this 27th day of March, 1896.

R. M. BLAYDES, Notary Public.

Regarding the above testimonial of John Baugress, I beg to say that no man stands higher for honesty and veracity in all this section than John Baugress.

W. H. WRIGHT,
Editor and proprietor of the *Democrat*, Atlanta, Texas.

Dr. Williams' Pink Pills contain, in a condensed form, all the elements necessary to give new life and richness to the blood and restore shattered nerves. They are an unfailing specific for such diseases as locomotor ataxia, partial paralysis, St. Vitus' dance, sciatica, neuralgia, rheumatism, nervous headache, the after effect of la grippe, palpitation of the heart, pale and sallow complexions, all forms of weakness either in male or female. Pink Pills are sold by all dealers, or will be sent postpaid on receipt of price, 50 cents a box, or six boxes for $2.50 (they are never sold in bulk or by the 100), by addressing Dr. Williams' Medicine Company, Schenectady, N. Y.

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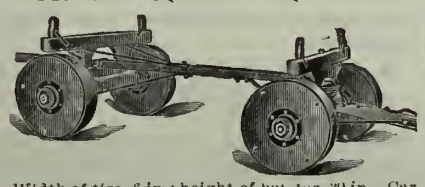

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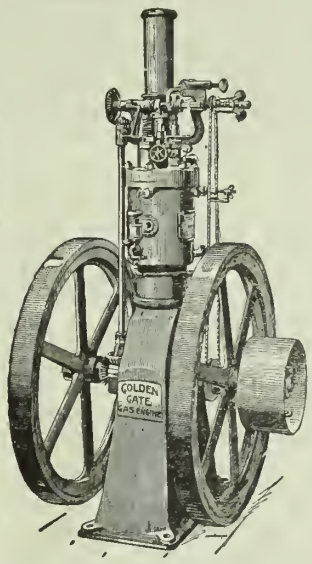

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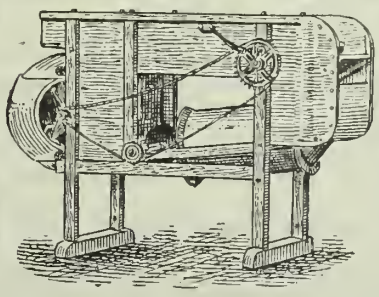

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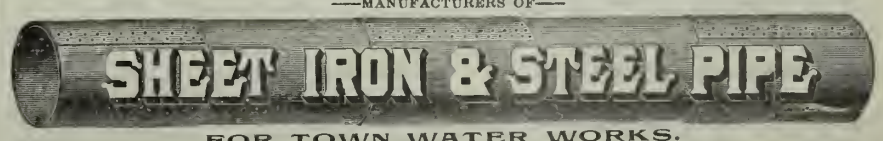

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THE HOME CIRCLE.

When Mary Was a Lassie.

The maple trees are tinged with red,
The birch with golden yellow,
And high above the orchard walls
Hang apples rich and mellow;
And that's the way through yonder lane
That's looks so still and grassy,—
The way I took one Sunday eve,
When Mary was a lassie.

You'd hardly think that patient face,
That looks so thin and faded,
Was once the very sweetest one
That bonnet ever shaded;
But when I went through yonder lane,
That looks so still and grassy,
Those eyes were bright, those cheeks were fair,
When Mary was a lassie.

But many a tender sorrow since,
And many a patient care,
Have made those furrows on the face
That used to be so fair.
Four times to yonder churchyard,
Through the lane so still and grassy,
We've borne and laid away our dead,—
Since Mary was a lassie.

And so you see I've grown to love
The wrinkles more than rosies;
Earth's winter flowers are sweeter far
Than all spring's dewy posies;
They'll carry us through yonder lane
That looks so still and grassy,—
Adown the lane I used to go
When Mary was a lassie.

—Anonymous.

Mr. Meek's Dinner.

"I wonder, James," said Mrs. Meek doubtfully to her husband one morning, "if you could get your own dinner to-night. You see, I've had to let the servant go on her holidays for a day or two, and they want me desperately at the Woman's Aid and Relief bazaar, to help them with their high tea from 4:30 to 8:30. If you thought you could manage by yourself"—

"I'll try to survive it," observed Mr. Meek good-naturedly. "I don't fancy it will prove fatal."

"I'll get a roast and cook it this morning, then," went on Mrs. Meek cheerfully, "and you can have it cold for dinner."

"Thank you," replied Mr. Meek, "you'll do nothing of the kind. I fancy I haven't gone camping pretty much every year of my life for nothing. I suspect I can manage a hot dinner about as well as most women."

Mrs. Meek had her doubts, and unlike most wives, expressed them.

Mr. Meek viewed his wife's doubts with supreme contempt, and unlike most husbands, expressed it.

Thus it finally resulted that Mrs. Meek abandoned all idea of preparing Mr. Meek's dinner for him, and betook herself to the bazaar. So it resulted, furthermore, that Mr. Meek left his office about 4 o'clock that afternoon and proceeded to collect on his way home the necessary supplies for a dainty little dinner.

An alluring display of chickens was the first thing to catch his eye, and he was just on the point of securing one of them, when, by good luck, or more probably through the natural sagacity of the man, he recollected that—well, that you don't, as a rule, cook chickens as they are. In the momentary reaction that followed this fact of memory, he bought a couple of mutton chops and three tomatoes.

"I'll have a good, plain, old-fashioned English dinner," thought he, as he hurried past the deceitful chickens with something almost akin to reproach. "None of your finicky poultry dinners for me!"

"By Jove!" he exclaimed a moment latter. "I'll have an apple pudding and some oyster soup to begin on."

He was so tickled with this idea that he promptly rushed into a grocery shop and purchased half a peck of their best eating apples and then hurried home without a thought of the cab he was to order for his wife at 8:30 sharp.

By 5 o'clock he had the fire going beautifully and everything ready for a start.

By 6 o'clock he was just beginning to enjoy the thing; the tomatoes were stewing divinely; the potatoes were boiling to their hearts' content and the milk for the oyster soup was simmering contentedly on the back of the stove. The oysters, by the bye, had not yet arrived.

"Dear me," thought the ambitious gentleman, "I wish I had some oyster patties for a sort of final dessert. Hello, what's this? By thunder, if that everlasting pig-headed woman hasn't left me some cold ham and a custard pie! By the Lord Harry, for two cents I'd throw the whole thing out into the back yard!"

The natural docility of his nature, however, prevailed, and he left the obnoxious viands unmolested and proceeded with his dinner. At 6:30 he put the chops on to broil, "as in the good old days of yore"—this poetic allusion to the style of cooking being occasioned by one of them accidentally dropping into the fire, whence he rescued it with great presence of mind by the joint assistance of the stove lifter and one of the best table napkins. By the time the chop was thus rescued both it and the table napkin were fairly well done—to say nothing stronger. This trifling difficulty he got over by putting the erring chop on the window sill to cool and the napkin into the fire—to do the other thing.

This accomplished, and with one chop gently cooking on the gridiron and the other one cooling on the window sill, he started to construct the paste for his apple pudding. This proved most fascinating. He placed a large quantity of flour in a small bowl, emptied a jug of water on top of it, added butter to taste, and proceeded to mold it deftly into shape, as he had often seen his wife do. The flour and water promptly forsook the bowl and betook themselves to his hands. Then the milk for the soup began to burn, just as the potatoes boiled dry. He rushed to the rescue and left the major portion of the paste fairly evenly divided between the handles of the two saucepans and the stove lifter. At this juncture the tomatoes started in to see if they couldn't surpass the milk in burning. They succeeded. The cat, which was accustomed to a 6:30 dinner, walked off with the chop on the window sill, while the chop on the fire grew beautifully black on the "down side." So many things were now burning all at the same time that Mr. Meek gave up all hope of trying to discover just which one was burning most. "Let the dashed things burn till they're sick of it!" was the extremely broad-minded way in which he summed up the situation. With the astuteness that characterized him as distinguished from his fellow-men, he at once gave up all efforts to track the truant paste, and simply popped his apples into the oven to bake.

It was about 7:30, and the fire was getting hotter than pretty much anything on earth, unless perhaps it was Mr. Meek. He turned all the dampers, opened all the doors, and took off all the lids. This resulted most satisfactorily; the fire began to cool. It didn't stop.

It got, if anything, a little low. After that it got very low. Then it went out. He rushed for a kindling, and nearly took his head off on a clothesline. Just as he had got nicely through expressing his views on clotheslines in general, and that clothesline in particular, he went about twice as far toward taking his head off on the clothesline on his way back.

The gentlest of natures when roused are often the most terrible. Mr. Meek became very terrible. He used up enough kindling, profanity and coal oil to have ignited the pyramids of Egypt. He stamped and shoved and poked and banged and cursed and shook till even the cat—and it had its dinner—was displeased with him, and departed to the outer kitchen to try the oysters, which the dilatory grocer had just deposited on the table without waiting to parley with Mr. Meek. He was a wise grocer and had heard enough.

When, about five minutes later, Mr. Meek discovered that the cat had found the oysters to its taste, he became even less calm. Had the cat been around (but like the grocer, it had heard enough, and taken an unobtrusive departure) it is highly probable that a considerable majority of its nine lives would have come to an abrupt termination.

At this stage, to console the unfortunate man, the fire began to go again. Once started it didn't stop. In about five minutes it burned up what remained of pretty much everything except a large pot of green tea and a small portion of Mr. Meek. The chop that the cat hadn't eaten was especially well done. It could be quite safely left on the window sill with a whole legion of cats around it. Mr. Meek, however, simply left it in the coal bin. In point of either color or hardness it would have been difficult to have found a more fitting resting place for it.

Then there came over Mr. Meek's face a terrible expression. He brought in a pail (it was the scrubbing pail, but no matter) and poured the soup carefully into it, throwing the pan about five feet into the sink; next scraped the potatoes into the same pail and again another pan followed the course of the first in getting to the sink; then he poured the tomatoes on top of the potatoes, and still a third pan got to the sink with unusual rapidity. It cannot be definitely stated whether or not Mr. Meek, in doing this, was actuated by the desire to prepare some famous hunter's dish relished in the dear old camping days gone by, but certain it is no sooner did he get the tomatoes nicely on top of the potatoes, than he took the whole thing and tossed it, pail and all, into the outer lane.

This accomplished, he proceeded to make a meal off the cold ham and some bread and butter—the cooking butter, of course.

Just as he was finishing Mrs. Meek returned.

"Why, James," she cried, cheerfully, "you never sent the cab for me, and I waited nearly an hour."

"No," said her husband, calmly. "I've been terribly busy. Men from New York—just got home a little while ago. This is a very good ham—a shade overdone, though, isn't it?"

"Perhaps a shade less wouldn't have hurt it. Let me get you a piece of pie?"

"No, thank you! No cold pie for me when there're hot apples in the oven. I'll tell you what you might do. You might bring 'em in if you are not too tired."

Mrs. Meek departed on her mission. In a few moments she reappeared, and, without moving a muscle, placed the plate of baked apples before her lord and master. They were about the size of walnuts and the color of ebony. Judging by the way they rattled on the plate they were rather harder than flint.

Mr. Meek rose with an awful look in his eye.

"I'm afraid," observed his wife, "they're like the ham—just a shade overdone."

"If ever I catch that cat," remarked Mr. Meek, as that sleek feline purred past him with a playful frisk of its tail, "I'll break every bone in its body"—only he described its body with sundry adjectives that were very strange to the ears of Mrs. Meek. At least so she said when she described the occurrence to her bosom friend, Mrs. Muggins, next day.—Truth.

When It Is Warm.

Don't fan in church.

Don't talk about the heat.

Don't look at the thermometer every half hour.

Don't, when it is cool in the morning, prophesy heat at noon.

Don't lie around in a neglige. One is much cooler when properly clad.

Don't drink iced water in too great quantities, nor too soon after being overheated.

Don't bathe too frequently; don't stay in the water too long, and don't check perspiration.

Don't sit about doing nothing and complaining of the heat. One is much cooler when one is usefully employed.

Don't wear dark and elaborated dresses. A woman is never so attractive looking as when clad in a simple white gown.

Gems.

"No man ever distinguished himself who could not bear to be laughed at."—Maria Edgeworth.

"Men who have seen a good deal of life don't always end by choosing their wives well."—George Eliot.

Drudgery is as necessary to call out the treasures of the mind as harrowing and planting those of the earth.—Margaret Fuller.

Take away God and religion and men live to no purpose—not proposing any worthy and considerable end of life to themselves.—Tillotson.

If you cannot come to Christ with faith and repentance, come to Christ for faith and repentance, for he can give them to you.—Spurgeon.

Education does not mean teaching the people to know what they do not know; it means teaching them to behave as they do not behave.—Ruskin.

The thing in the world I am most afraid of is fear, and with good reason, that passion alone in the trouble of it exceeding all other accidents.—Montaigne.

Education begins at the mother's knee, and every word spoken within the hearing of little children tends toward the formation of their character.—H. Ballou.

Vigilance is in watching opportunity; tact and daring in seizing upon opportunity; force and persistence in crowding opportunity to the utmost of possible achievement.—Austin Phelps.

The only fountain in the wilderness of life, where man drinks of water totally unmixed with bitterness, is that which gushes for him in the calm and shady recess of domestic life.—William Penn.

Washing Lace Curtains.

It always pays to have a frame of light wooden strips to dry lace curtains on. It should be the exact size of the curtains, so that they may be stretched on it when wet, and dried in this way. Tack a strip of strong cloth on all sides of the frame, and pin the curtains evenly to this strip at the top, bottom and sides. Or if you prefer, they may be basted to it, though this is more trouble. Almost any variety of curtain can be washed by the method given. Expensive Brussels curtains had better be cleaned by a regular French scourer who understands how to handle real lace.

Before touching the curtains make a strong soapsuds of hot water in which a tablespoonful of borax has been dissolved for every gallon of water, and half a bar of soap shaved and melted for every tubful of water. Put the curtains in this water. Souse them up and down and let them soak well covered over night. The next morning examine them, put them through a wringer and throw them into fresh soapsuds. Souse them repeatedly and scald them in a clothes boiler and rinse them as carefully as possible in two or three rinsing waters. If they are white blue them a little, but bleach them, laying them on the frames on the grass. If they are creamy in color dry them in

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the house, and use a few tablespoonfuls of strong coffee to preserve the yellow tint.—New York Tribune.

Fashion Notes.

Light-colored capes are extremely fashionable this year. Some of them are made of white lace and seem transparent fabrics over light or bright-colored silk linings.

Evening waists do not have much more than frills for sleeves, made of double box plaits of tulle, or thin silk, or chiffon. The prettiest bishop sleeves are those which are gored out a little between the elbow and the wrist.

Ribbons, which have been a veritable epidemic, are rarely seen made up with the more expensive fabrics. They seem to have been relegated by general consent to wash goods or to very thin materials, and exquisitely pretty they are when made up with them.

The flowered muslins with the Dresden taffeta ribbon are simply dainty and lovely enough in their coloring for an artist to rave over, and for a young girl with a fresh, bright complexion the pinks and the blues are combined in the most becoming of colorings.

Nearly all parasols have large bows of ribbon at the handles. The sticks are of natural wood or have carved ivory or ebony, Dresdeu china or metal handles. There are caprices of all sorts in the way of handles, some of them excessively ugly, and others more quaint and interesting than beautiful.

The newest hats are not nearly as overloaded with trimming as they bade fair to be earlier in the season, when it seemed as if they would rival the immense structures of tulle and flowers and feathers so popular in the time of Marie Antoinette.

The pretty way of turning up a hat, whether small or large, at the back, and filling in the space between the hat and the hair, is almost universal, but the extreme Parisian tip tilting over the eyes has not been adopted here, and for that reason, perhaps, the hats are smaller.

Many of the new sleeves have the upper puff divided with a couple of ruffles, which are graduated to a point at the bottom, where they are finished with a bow or rosette, the ruffles in this case being placed side by side. Another equally pretty effect is produced by five separated ruffles, which converge at the top and bottom, and which in thin material or lace give a very pretty fluffy effect.

Curious Facts.

Twenty-five thousand persons were attacked with cholera in Japan the last summer, and sixty-four per cent died.

Greater New York consists of forty-five islands, just as many as there are now stars in our flag.

Gunpowder men's shoes are made with wooden pegs, as nails might strike a spark. Spikes of hard wood are used in the flooring of the powder building.

By actual measurement of fifty skeletons the right arm and left leg have been found to be longer in twenty-three, the left arm and right leg in six, the limbs on the right longer than those on the left in four, and in the remainder the inequality of the limbs was varied. Only seven out of seventy skeletons measured, or ten per cent, had limbs of equal length.

Hyde Park, the most distinctive of London parks, covers nearly four hundred acres. The Paris Bois de Boulogne covers 2200 acres. Central Park, the most distinctive of New York parks, covers 840 acres. Collectively—and including those parks in the suburbs—there are in London 22,000 acres of park land. Including as parks the neighboring forests of Fontainebleau, with 42,000 acres, and St. Germain with 8000, the park acreage of Paris is 172,000 acres.

The balloon sleeve is going out. It will probably have trouble to get out.—Philadelphia Record.

Cleaning Silk.

The cleaning of silk is a much more difficult thing than the cleaning of wool. There are few cloths of pure wool which cannot be washed with white soap and water. The process of cleaning the cloth with soap bark given in the *Tribune* is much more thorough than any ordinary washing with soap and water can be. Silk of ordinary waves cannot be washed successfully without losing luster and changing color. The dyes of silk are not made so as to be color proof, as cotton goods usualy are. There is no special effort on the part of silk colorists to do anything but prepare goods that will not fade in the light and under the ordinary circumstances to which silk is subjected. There are some delicate colors that will not stand cleaning. The majority of silks may be cleaned by the process given, otherwise they may be considered beyond cleaning. Lay the pieces of silk on a pad made of linen. The fold of a white linen sheet will do very well. Stretch the silk on the pad, and if it is greasy remove the grease spots with a piece of cotton dipped in refined gasoline or benzine, the name under which gasoline is often sold by druggists.

Clean the silk in this way on both sides. Do not wet it but moisten the cleaning pad of cotton often with the liquid. After this process take a fresh pad of linen and lay the silk over it, and sponge it well with a mixture of half rain water and half alchol. Rinse this off with clear rain water, drying it carefully with linen so as to absorb all the moisture you can. Turn the silk on the wrong side, lay a cloth over it and press it very carefully. If it is very delicate silk it can sometimes be dried on the board without applying heat.—N. Y. Tribune.

Sitting for a Picture.

A veil imparts a patchy appearance to the face.

Gloves make the hands appear much larger than they are in reality.

It is unwise to wear a new dress. It always falls in awkward folds.

A feather boa or a lace fichu has a wonderfully softening effect on the features.

Generally speaking, the head and shoulders make a far prettier picture than a full-length portrait.

Above all, if you want your picture to have a natural expression, you must forget where you are.

Unless there is an urgent reason for it, it is a great mistake to be photographed if you are either out of health or in low spirits.

A just-the-mode-of-the-moment style of costume or coiffure will "date" the photograph and soon make it look out of fashion.

A white dress, or one that takes "white," gives a ghastly effect and one far from becoming, unless the sitter is young and pretty.

Pleasantries.

Master—How was this vase smashed, Mary? Mary—If you please, sir, it tumbled down and broke itself. Master—Humph! The automatic brake again!—Tit-Bits.

In a certain Sunday-school a teacher asked the class, "What are the two things necessary to baptism?" Small girl, replying, said, "Please, sir, water and a baby."—Christian at Work.

During a call that little four-year-old Mary was making with her mother a slice of cake was given her. "Now, what are you going to say to the lady?" asked her mother. "Is you dot any more?" asked little Mary, demurely.—Philadelphia Times.

"Father," said a thoughtful little boy, "how many feet has a dog, if we call his tail a foot?" "Why, five feet, my son." "No, father, that isn't right." "How so, my son?" "Why, he would have only four feet. You see, calling his tail a foot don't make it a foot."—Exchange.

DOMESTIC ECONOMY.

Hints to Housekeepers.

Boiled water tastes flat and insipid because the gases it contained have been driven off by the heat.

Eiderdown comforts are apt to lose their lightness after considerable use. To restore them beat well with a rattan beater, and hang on the line a few hours in a strong wind.

Ripe tomatoes will remove almost any kind of stain from the hands, and they can also be used to great advantage on white cloth, removing ink spots as well as many others.

Hives are due to the majority of cases to improper diet; the foods that should be avoided by those subject to this unpleasant disorder of the skin are fish, pork, cheese, pickles, sauerkraut or strawberries, particularly when they are stale.

Young carrots make an excellent salad sliced and served very cold on crisp lettuce with a French dressing, and served in cream sauce containing minced parsley, or in drawn butter seasoned with lemon juice, salt and white pepper.

New outing pillows for travelers and campers are made of prepared paper and filled with air. They come in different sizes and shapes. The odor of the rubber air pillows is disagreeable to some persons; their coldness to the touch is unpleasant to others. In such cases they are sometimes covered with a muslin cover, to which there is tacked a thin sheet of wadding sprinkled with orris root or lavender, and then covered with a linen case that can be easily slipped off and laundered. A covering of light-weight flannel is put on under the outside covering for those who dislike the chilly feeling of the rubber. The covers for all piazza, camping and boating cushions should be of material so well dyed that the colors will not run or spot if they chance to get a wetting. The striped Madagascar grass cloths are not injured by water. Some of the Japanese cloths in blue and white cottons make lovely cool-looking covers that wash well and are not expensive.

Kitchen Lore.

Scallop and Tomato Salad.—Cut one pint of scallops into small dice after cooking them. Remove the top and soft part from six ripe tomatoes, fill the cavity with the scallop dice and put a tablespoonful of mayonnaise on each. Serve in cup-shaped luttuce leaves.

Strawberry Souffle.—Wash, hull and cut, or mash slightly, one cup strawberries. Beat the whites of two eggs till stiff, add two heaping tablespoonfuls powdered sugar and the berries and beat until very thick and stiff. Use a broad bowl and a wire egg beater or spoon, and beat with a long, steady stroke. Pile it lightly on a glass dish and serve with delicate white or sponge cake.

Quick Pastry for Lemon Pie.—Mix half a teaspoonful salt with one cup pastry flour. Chop in a quarter cup of lard, and mix with cold water into stiff dough. Pound it out flat and half an inch thick. Put on butter in little dabs, roll up and pat out again. Do this four times, using quarter of a cup in all. Pat it out again and lay on the ice until chilled. Then roll it an inch larger than the plate and cut off for a rim; put this strip on the edge, first wetting the under paste, then fill with a cooked lemon filling.

String Bean Salad.—Open a can of extra small stringless beans, turn them into a colander and pour cold water through them to remove all the liquid which was in the can and which always has a strong disagreeable taste. Drain them very dry on an old napkin, and put them in a cold place until serving time. Lay the yellow inner leaves of a head of lettuce around the salad bowl, turn in the beans and pour over them the following dressing, mixed in the order given: Half a teaspoonful salt, one saltspoonful paprika, four tablespoonfuls oil and two tablespoonfuls vinegar.

Live Dux

We are going to make a lively sale of Ducks commencing on August 1st—something that will make the feathers fly all over the coast. You know what we mean. We have picked out Ducks from the best styles in the market and of the biggest factories, and are going to sell fine Dress Ducks at 5c. per yard for one week, commencing August 1st, unless they are sooner closed out. They are not dark in color, but they are summer colors; a few might be called medium, but mostly light, suitable for Blazer suits, Eaton suits, and other fashionable styles of summer walking suits. Also good patterns for shirts for men and boys, for waists for little boys or for ladies, for general wear and even for lining quilts. They are the biggest bargain ever heard tell of.

100 pieces, stripes and figures in heavy Dress Ducks..... 5c.

100 pieces, beautiful patterns, selected with great care.....6¼c.

78 pieces, dark or light styles in Dress Ducks.....7½c.

Now, let us remind you again that these are not leavings from any sale nor are they

Picked Up

In some market where the holder has been unable to sell them. They are directly from the maker, and their price up to this date has been 10c., 12½c. and 15c. per yard, or thereabout. There are no better goods in any store in San Francisco in the line of Ducks than we offer you at the above figures. Comment is unnecessary.

No Samples

Will be sent and no goods taken back except at the expense of the buyer. We will willingly exchange, but it must he done at your expense, as we have not a cent more to lose than we have provided or already.

Give the best information you can as to color, and particularly as to the use they are for, and we are

Sure to Please,

Providing you order, say, between the 1st and the 8th of August. You can have these goods laid aside, if you are remote and want to await your freight order. We will be careful to mark them with your name and all the facts, so as not to miss them when you order by freight.. They are almost too heavy to mail. About 4½c. per yard must be added if they are to go by mail. You will know by this that they are strong, heavy, serviceable and seasonable goods. We need not say another word in their behalf.

Send stamps for a few yards or other remittance for larger lots and we'll keep them until you order. Ask for list.

THE BIG DEPARTMENT STORE,

SMITHS CASH STORE,

414, 416, 418 Front St., S. F., Cal.

Home Dressmaking Made Easy.

The RURAL is enabled to furnish the following patterns to its readers at 10 cents apiece, postpaid. The patterns are handsomely put up in a separate envelope containing illustrations and descriptions and mailed for five two-cent stamps. Address Pattern Department, RURAL PRESS, 220 Market Street, San Francisco, giving number and size of pattern wanted.

OF CLOTH AND VELVET.

949—Valoria Waist.

Sizes for 14 and 16 Years.

A becoming corsage for a young girl, suitable as a model to complete a gown of challie, cashmere or fancy wool, or for separate waists of silk, crepe or batiste. Our model is of pearl-gray mohair with a full front of shell-pink Dresden silk. The waist is full in the back, but without trimming. The fitted lining fastens in front, but the full blouse should be without opening and fasten under the fullness on the left side. Stitched straps of mohair band the front and are fastened with steel buttons. The girdle, neckband and sleeves are finished to correspond.

A special illustration and full directions about the pattern will be found on the envelope in which it is inclosed.

BECOMING AND DRESSY.

966—Hermia Waist.

Sizes for 34, 36, 38 and 40 Inches, Bust Measure.

A charming model for a gown of batiste, taffeta, India silk, or for any or all of the transparent fabrics so much in vogue. Our model is of figured taffeta, with the stock-collar and girdle of fancy ribbon. There is fullness in the back, laid in side-plaits turning toward the middle, as in front. A dressier effect can be given, if desired, by covering the openings between the plaits in front with stripes of insertion. Waists of transparent fabrics are made over colored linings, rendering them quite becoming and effective.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

AN AFTERNOON FROCK.

971—Eleva Dress.

Sizes for 8 and 10 Years.

The charming little frock illustrated is of sheer grass-cloth lined with pink lawn, glinting through just enough to brighten it. The skirt is gored in the front and on the sides, and the lining and outside may be sewn together or made separately, as preferred. If separate, both skirts are finished with a deep hem or facing. The back of the waist is fulled over a fitted lining, and the full front is finished with straps simulating box-plaits and ornamented with rows of flat trimming. The yoke is finished correspondingly. The model is commended for challies, India silk and all pretty summer fabrics, as well as fancy wools.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

OF FANCY TAFFETA.

954—Hermance Basque.

Sizes for 34, 36, 38 and 40 Inches Bust Measure.

Very simple and extremely smart are the light silk and organdy gowns for summer wear. Our model, the "Hermance," is a popular design for these fabrics, and may be made as plain or elaborate as desired. The waist is slightly fulled at the bottom and a narrow frill gives a basque effect around the hips. The wide shoulder-collar is lined and finished with a very full frill of lace. This collar should be finished separately, so that it could be varied with others made of different fabrics. A ruffle of lace falls over the stock-collar of ribbon or velvet, which fastens in the back under a large bow. This model is desirable for all washable fabrics and light-weight woolens.

A special illustration and full directions about the pattern will be found on the envelope in which it is inclosed.

947—Haddu Skirt.

Sizes Medium and Large.

An exceptionally graceful design, having ten gores, all rather narrow, and measuring about six yards around the bottom. The fullness at the top is laid in three backward-turned side-plaits just back of the hips, and the center of the back is gathered. Silk, woolen or cotton fabrics may be chosen for this model. The skirt is lined throughout and finished at the bottom with a stiff facing, 12 or 15 inches deep. Any style of coat, basque or waist may be worn with the skirt.

A special illustration and full directions about the pattern will be found on the envelope in which it is inclosed.

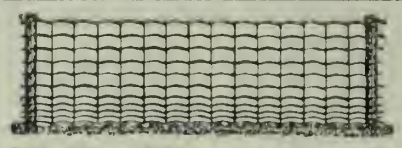
A Great Pattern Offer.

VALUABLE CUT PATTERNS FOR TEN CENTS TO THE READERS OF THE RURAL PRESS.

THE DEMOREST CUT PAPER PATTERNS.

Their Styles Are Universally Adopted by Well-Dressed Women Everywhere. The Ten Cents Only Pays for Handling, Mailing, Etc.

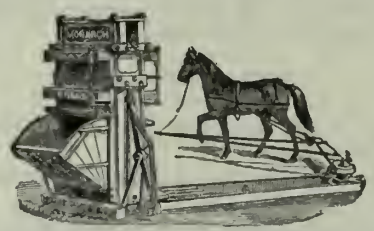
These Patterns Are Practically Free to Our Subscribers.



Call Next Witness!!!

Name, J. W. Dewey, residence, Cambridge, Mich., occupation, farmer. Bought 40 rods of Page in **1886**—gave note payable in one year, if **perfectly satisfied.** Paid note before due. May 21, '96, writes "10 years to-day since put up first Page." Holds all his stock, had no repairs, and has now 500 rods in use. See copy of his note and letter in the "Hustler."

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



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Reliable Steel Hay Rake. Our IMPLEMENTS ARE THE STANDARD of the World—the Model for others to Copy.

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BICYCLES, SPORTING GOODS,

At Wholesale Prices.

Send stamp for new Illustrated Catalogue. Home Supply Co., 13 Front St., San Francisco, Cal.

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Trade **H.H.H.** Mark.

Horse Medicine!

D. D. T., 1868.

Will Remove All Callous Lumps, Spavins, Wind Galls, Ring Bone, Pole Evil, and Will Cure Sweeny, Scratches, Sore Shoulders, Distemper, Contraction of Leaders, Fistula, and All Blemishes on the Horse.

AS A FAMILY LINIMENT, IT IS THE BEST IN THE WORLD.

Do not be deceived by anyone who says he has as good or better liniment than the H.H.H., for he is an impostor and you will surely waste your money if you buy it. Insist on having the H.H.H. and no other. Examine every bottle to see if the name of Henry H. Moore is on label pasted on bottle, and the firm name is on outside cover of wrapper, before you buy it.

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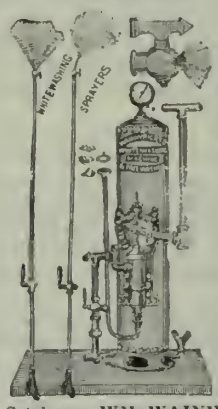
STOCKTON .... CALIFORNIA.

Whitewashing done for THREE-QUARTERS OF A CENT per Square Yard.



LOOK AT THIS!

400 yards of whitewashing or 200 trees may be sprayed in one hour by **Wainwright's Whitewashing Machine & Tree Sprayer.** Machines at prices from $3 to $50. Whitewashing or Tree Spraying Nozzles sent by mail at $1.00 each. With this machine, rods and nozzles, buildings 25 feet high can be whitewashed or trees sprayed without staging or ladders. All the large buildings at the Midwinter Fair were whitewashed with lime and had the appearance of fine paint work. We also supply a full line of the Best and Cheapest Telephones, Transmitters, Wire, etc., for communication between office, warehouse, dwelling, etc. Send for Catalogue. **WM. WAINWRIGHT, No. 7 Spear Street.**

A WIND MILL

THAT YOU CAN RELY UPON for all the purposes for which wind mills are used is the **GOODHUE PUMP AND POWER MILL.**

IT IS NOT LIKE OTHERS—IT IS BETTER

GOODHUE WIND MILLS ARE GOOD MILLS

We also make a full line of grinding mills wood saws, shellers, fodder and ensilage cutters, &c. Catalogue sent **FREE.**

Our famous Success horse TREAD POWER is a Marvel. Adapted to all uses requiring a moderate power.

APPLETON MFG. CO. 23 Fargo St., Batavia, Ills.

UNION IRON WORKS,

SACRAMENTO.....CALIFORNIA.

ROOT, NEILSON & CO.,

—MANUFACTURERS OF—

STEAM ENGINES, BOILERS,

And all kinds of

✦ ✦ MACHINERY FOR MINING PURPOSES.

Flour Mills, Saw Mills and Quartz Mills; Machinery Constructed, Fitted Up and Repaired.

FRONT STREET, Bet. N & O., SACRAMENTO, CAL.

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Machinery and Castings of all Kinds Made and Repaired.

Manufacturer of Steam Engines, Rippies, Pumps, Water Wheels, Horse Powers, Etc.

CHILLED CAR WHEELS A SPECIALTY.

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Open All Year. : A. VAN DER NAILLEN, Pres't.

Assaying of Ores, $25; Bullion and Chlorination Assay, $25; Blowpipe Assay, $10. Full course of assaying, $50. Established 1864. Send for Circular.

Patrons of Husbandry.

From the State Lecturer.

Attention of Lecturers and members is directed to an assay below on "Lecturer's Work," by Lecturer E. J. Walker, of Boyleston, Mass., Grange. It is offered in response to requests of Lecturers as to their duties and labor expected of them. The State Lecturer, being young in office, indeed much younger than those he is expected to instruct, was much pleased to find a paper on the subject much in advance of anything he could offer now.

LECTURER'S WORK.

How to draw out and develop the dormant talent in a grange is a question confronting every lecturer of a grange and causing a large amount of study and effort. Lecturers recognize that the talent from which to draw may be divided into groups or classes—those who are always ready and willing to do what they can, those who must be excused, those who feel they can't and are afraid to try and those who know they can't and won't try. If there be a large supply of the first class, most lecturers are quite apt to depend upon it, leaving idle more or less talent which ought to be brought out. But how can it be done.

In the first place the lecturer must be interested in his work, be able to give much time and thought to it, have the good will of every member of the Grange and be of an even disposition with a large amount of patience, a thorough understanding of human nature and a natural power of leadership. We are all so bashful, so sensitive or so jealous that to know how to touch the right side of our natures requires tact and perseverance. The right word in the right time and in the right place often works wonders. Get the good will of your man or woman.

This being accomplished find out what each individual can best do and is most interested in, and work to draw him out along these lines. Some have more or less musical talent which they have nursed and enjoyed in their own homes, but through lack of confidence have failed to advance it for the benefit of others. Some are capable of becoming good readers or declaimers who for some reasons heretofore given or for lack of opportunity have never come forward to give the aid which they might. Then there are those who could take part in dialogues to good advantage if they would only improve the opportunity to test themselves.

Then, lastly, come those who might become proficient extemporaneous speakers if only once induced to get upon their feet.

Right here lies the most difficult problem for the Lecturer to solve: how to get the members to take part in the discussions. Both among the young and old I often hear one say, "I can't speak in public; no sooner do I get on my feet than everything I have to say leaves me; just get Mr. So and So to help you out."

Now, most persons can learn to speak in public if they only will. They may never become fluent, but they can say something, and oftentimes those few words will carry more weight than the many from a more oily tongue. To reach this hesitating class I know of no better way than to choose subjects which we know will particularly interest them and then call upon them to lead in discussion, leaving the more experienced speakers to the last, when there are less thoughts to expand and the question is harder to talk upon.

Having become acquainted with various abilities and interests, strive to get them to work. To do this show them that you are in earnest yourself and are interested in them. If they belong to the class which must always be excused, just go through the usual form of getting down on your knees, or pat them on the back, and you have them at your mercy. In dealing with those who feel they can't and so are afraid to try, work gradually, being satisfied with small beginnings and showing an appreciation for any attempt they make. Let alone the class who won't try; stubbornness usually reaps its own reward. In many cases some particular friend of a person will have more influence than the Lecturer himself in drawing them out, and when so let the work be done through that friend.

We all have more or less talent, and the more of that talent which is brought out so much the better off is each individual member and so much better off is the whole Grange. No man proves what he can do till he makes the attempt, and any effort another may put forth to call out a Brother may reap a blessing he little dreamed of. One reason why so many hesitate to take part is fear of ridicule, their education may be limited, they may have some peculiarity of speech or manner, their disposition may be naturally retiring or their experience in public small.

But let one and all try to help each other to overcome these difficulties, and, by so doing, accomplish the purpose for which the Grange was founded—to make stronger men and women.

—The success of the Chino beet sugar factory is encouraging the early establishment of additional factories in that locality and elsewhere in the State. Negotiations are said to be nearly complete for the establishment of another factory near the ocean in Los Angeles county.

Breeders' Directory.

Six lines or less in this directory at 50c per line per month.

Horses and Cattle.

F. H. BURKE, 626 Market St., S. F. Al Prize Holsteins; Grade Milch Cows. Fine Pigs.

JERSEYS—The best A. J. C. C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

BULLS—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

PETER SAXE & SON, Lick House, S. F., Cal. Importers and Breeders. for past 21 years, of every variety of Cattle, Horses, Sheep and Hogs. Correspondence solicited.

Poultry.

SANTA TERESA POULTRY FARM, Eden Vale, Cal. Barred Plymouth Rocks. Black Minorcas, White Leghorns, Brown Leghorns. Eggs for sale. Send for circular.

PARKVIEW POULTRY FARM, F. P. Lowell, Prop., Sacramento, Cal. Breeder of high-class Black and White Langshans; Brown, Buff and White Leghorns; Black Spanish; Black Minorcas; Barred Plymouth Rocks and Pekin Ducks. Write for circular.

R. G. HEAD, Napa, Cal., breeds all leading varieties pure-bred poultry. Eggs, $1.00 a setting. Send for new catalogue.

J. W. FORGEUS & CO., Santa Cruz, Cal. Fine Fowls and Eggs. Write to us

PURE BRED POULTRY AND EGGS, Carman Bros., San Jose, Cal. Barren eggs replaced.

WELLINGTON'S IMPROVED EGG FOOD for poultry. Every grocer and merchant keeps it.

MANHATTAN EGG FOOD, Red Ball Brand, at all grocers; or wholesale, Tillman & Bendel, S. F.

CALIFORNIA POULTRY FARM, Stockton, Cal. Send for illustrated and descriptive catalogue, free.

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F. H. BURKE, 626 Market St., S. F.—BERKSHIRES.

TYLER BEACH, San Jose, Cal. Breeder of Thoroughbred Berkshire and Essex Hogs.

A. P. HOTALING—Berkshires from imported stock—Mayfield, Santa Clara Co., Cal.

J. P. ASHLEY, Linden, San Joaquin Co., Cal. Breeds Berkshire, Poland-China and Essex Swine.

CHAS. A. STOWE, Stockton, Regist'd Berkshires.

Sheep and Goats.

J. B. HOYT, Bird's Landing, Cal. Importer and Breeder of Shropshire Sheep; also breeds Cross-bred Merino and Shropshire Sheep. Rams for sale. Prices to suit the times. Correspondence solicited.

C. P. BAILEY, San Jose, Cal. Pure bred Angora Goats and Persian Fat Tailed Sheep. Send for catalogue and price list.

AN AILING HORSE

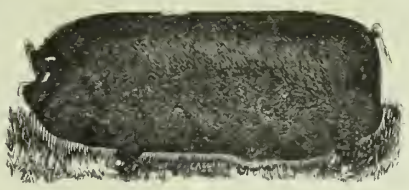
means loss of money. We cure him while he works from Harness Gall, Cuts, Speed Cracks, Grease Heel, etc. Also good for sore teats on cows. Ask your dealer for it. Sample mailed for 10c. Enough to cure one horse.
BICKMORE GALL CURE CO.
BE SURE AND WORK THE HORSE Box 708 OLD TOWN, ME.

OLIVER'S HATHAWAY PATENT PANEL FENCE WIRE.

THE best substitute for barb wire ever invented, being at once thoroughly visible, strong and ornamental. Three strands will make an effective fence, and four strands are sufficient for even pigs and sheep. FEWER STRANDS, LESS WEIGHT, REDUCED COST.

REGULAR—Put up on spools of about 100 pounds each; runs 12 ft. to the pound, and is 1¾ in. wide. WIDE—Put up on spools of about 65 pounds each; runs 9 ft. to the pound, and is 3½ in. wide. All orders filled with "regular" wire (1¾ in.) when "wide" is not specified.

For Sale by JOHN A. ROEBLING'S SONS CO., 25-27 Fremont St., San Francisco.



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We have several fine litters coming on. Book your orders for choice pigs. Write for prices and get our circular.

Rushford Farm . . Wagons.

A Great Sacrifice Sale to Reduce Stock.

WE OFFER THE FOLLOWING SIZES BELOW COST:

FARM GEARS.

	Cat. No.	Size Axle.	Style Axle.	Width Tire.	Capacity.
7.....	47	2⅛	Hollow Steel..	2 in.	2500 lbs.
5.....	47	2⅛	"	3 in.	2500 lbs.
5.....	48	2⅜	"	2½ in.	4000 lbs.
12.....	50	2⅞	"	4 in.	6500 lbs.
8.....	38	1¾	Concord Steel.	3 in.	4000 lbs.
4.....	40	2	"	2½ in.	6000 lbs.
4.....	40	2	"	3 in.	6000 lbs.
2.....	40	2	"	4 in.	6000 lbs.
8.....	18	3¼	Steel Skein...	2 in.	4000 lbs.
2.....	18	3¼	"	2½ in.	4000 lbs.
8.....	19	3½	"	2¼ in.	5000 lbs.
4.....	19	3½	"	3 in.	5000 lbs.

All these wagons are fresh stock, fully guaranteed, and prices can't be duplicated. Write to us.

HOOKER & CO.,
16 and 18 Drumm St.,
SAN FRANCISCO, CAL.

Improved Pacific Incubator.

Absolutely Self-Regulating. Hot Water.
Send stamp for our catalogue of Incubators, Wire Netting, Blooded Fowls and Poultry Appliances generally. *Remember the Best is the Cheapest.*
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The AMERICAN Bee Journal
ESTABLISHED IN 1861
OLDEST BEE-PAPER IN AMERICA
A Sample Free
The leading paper, and only weekly; 16 large pages. BE SURE to see it before subscribing for any other
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KENDALL'S SPAVIN CURE. Certain in its effects and never blisters. Sold everywhere.

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Advice and Circulars free.

DEWEY & CO., Patent Agents,
220 Market St., San Francisco.

NAVEL ORANGE GROVES.

Owing to old age and inability to work, I would now sell a half interest in two or three Navel Orange Groves, near town, **at much less than their value and on very easy terms** to the right kind of a younger man, to work and manage them. An unequaled opportunity for an industrious man to secure a competence without risk. Address
GEN. J. H. FOUNTAIN, Riverside, Cal.

TREE WASH, OLIVE DIP.
"Greenbank" Powdered Caustic Soda and Pure Potash.
T. W. JACKSON & CO.
Sole Agents. - - No. 226 Market Street,
SAN FRANCISCO, CAL.

LEE D. CRAIG,
Notary Public and Commissioner of Deeds,
316 MONTGOMERY STREET,
Bet. California and Pine, SAN FRANCISCO, CAL

WANTED!
5000 Green Gage Seedlings
For piece grafting; one bushel Green Gage seed. ALTA LOMA NURSERIES. Alta Loma, Texas.

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, July 22, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	125,211	288,241	159,818
Wheat, ctls	55,383	172,996	481,467
Barley, ctls	51,754	83,623	261,336
Oats, ctls	2,993	23,163	21,266
Corn, ctls	240	2,992	5,038
Rye, ctls	480	765	2,317
Beans, sks	2,268	8,354	8,032
Potatoes, sks	19,536	40,629	47,755
Onions, sks	3,836	8,284	9,025
Hay, tons	3,714	6,822	9,465
Wool, bales	1,332	3,586	5,438
Hops, bales	24	40	....

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	95,956	233,728	104,803
Wheat, ctls	91,763	158,994	1,004,940
Barley, ctls	7,082	11,482	128,610
Oats, ctls	1,782	2,326	1,291
Corn, ctls	763	1,614	1,392
Beans, sks	3,173	11,833	33,414
Hay, bales	1,047	2,244	1,509
Wool, lbs	254,711	1,260,711	2,268,000
Hops, lbs	2,595	30,249	16,731
Honey, cases	126	148	930
Potatoes, pkgs	895	1,743	7,087

Grain Freights and Charters.

There is litttle doing at present in the way of chartering ships for grain loading, either of the disengaged vessels in the harbor, or of the fleet headed this way. The tendency of ocean freights has been to lower levels although shipowners in most instances refuse to accept the figures now obtainable. A small iron bark arrived under charter for wheat to Sydney at £1. An iron ship was taken to carry barley from San Diego to Europe at £1 3s 9d. The latest spot charter for wheat from this port to Europe was at £1 5s. An iron ship arrived under charter at £1 10s to Cork for orders.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive.
1896	49,768	37,075	259,521
1895	23,819	1,521	371,285

Wheat.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	5s 1½d@5s 2½d.	5s 4d@5s 4½d.
Freight rates,	35@37½s.	25@27½s.
Local market,	$0.88¾@91¼	$0.95@1.00.

The prices above are for spot lots of standard No. 1 California in Liverpool, and for good to choice shipping in this city.

The *River Plate Review* of June 5th has the following concerning the corn (wheat) crop in Argentina:

The yield and quality of the corn crop has resulted far more satisfactorily than was ever anticipated. The average return per square is something wonderful, 60 quintals being a low figure, some farmers having harvested up to 106 quintals per square. The quality also could not be better, and if only we could get some decently dry and cold weather, the condition would be such as to render merchants' minds easier as to how it will turn out at the points of discharge. The first estimate of our export from here of 6,000,000 bushels must be increased to 10,000,000 bushels at the least. The big yield compensates growers for the poor prices ruling at present. The immediate outlook for them is unfortunately not very encouraging, as gold does not seem likely to rise much, if at all. Freights have a firmer tendency, and values are already falling away in the home markets.

Immediately following last review, there was a slight hardening in speculative values for wheat, both in Eastern centers and in the San Francisco market, but it was only fractional here, not to exceed a half-cent per cental, and this advance did not prove permanent, most of it being lost before the close of business on Monday. Values current on spot wheat or on offerings by sample, remained much the same as last quoted, with an active trading in this center. Sellers were not numerous, and there was no disposition manifested to crowd offering to sale, at the expense of having to make pronounced concessions to the buying interest. Exports continue of light proportions and for the month to date, aggregate larger to Australia and South Africa combined than to Europe. It is reported that the shippers in this center, who have been lately working in unison, have dissolved partnership, as it were, for the time being, owing to individual efforts to monopolize trade. It is to be hoped that shippers will keep apart, for such a course will certainly prove more to the producer's interest than otherwise. Market closed very quiet, with easy tone.

California Milling	$1 00@1 10
Cal. No. 1 shipping, alongside	95@ 97½
Oregon Valley	95@1 00
Walla Walla Blue Stem	1 00@1 10
Walla Walla Club	95@1 00

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, 98¼@98¾c.

May, 1897, delivery, $1.02⅝@1.02½.

Wednesday, at regular noon session of Call Board, December wheat sold at 98½@ ——c; May, ——

Flour.

City mills reduced their quotations 15c per barrel; but the reduction was more apparent than real, for they had been previously selling very close to the lower figures quoted. The market is easy in tone for all descriptions of flour. Trading on local account has been light. There has been a fair export business, mostly of special brands for China.

Superfine, lower grades	$2 25@ —
Superfine, good to choice	2 40@2 50
Country grades, extras	2 85@3 15
Choice and extra choice	3 15@3 35
Fancy brands, jobbing	3 35@3 60
Oregon, Bakers' extra	2 75@3 00
Walla Walla, Bakers' extra	2 75@3 00

Barley.

There have been no radical changes in the tone or condition of this market for the week under review, but the general tendency has been to more ease. The speculative demand has thus far this season been of very limited proportions, as is evidenced by the light trading on Call Board, with a portion of the same in all probability bogus or "wash" sales. A ship has been engaged to load barley at San Diego for Europe, which will relieve the southern portion of the State to a considerable degree of the surplus of this cereal. While there is some barley going aboard ship at this port for Europe, the outward movement is of very small volume to date as compared with a year ago, when at the corresponding time this month shipments had already aggregated for last season over 12,000 tons.

Feed, No. 1 to choice	70 @—
Feed, fair to good	65 @67½
Brewing, No. 1 to choice new	75 @77½

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, 69@70⅞c; May, 1897, delivery, ——@——c.

Wednesday at regular noon session of the Call Board December feed sold at 69c.

Oats.

There are no heavy quantities now arriving from Washington and Oregon, nor are there likely to be large receipts from above sections for the next thirty days or more. New oats are beginning to come forward, however, from the oat-producing sections of this State. Most of the California oats are rather ordinary in quality and do not interfere seriously with choice to select from the two States north. Market is fairly steady for best qualities of old, but is weak for all common grades, both old and new.

White Oats, fancy feed	92½@— —
White, good to choice	85 @ 90
White, poor to fair	77½@ 82½
Gray, common to choice	77½@ 82½
Milling	85 @ 87½
Surprise, good to choice	97½@1 02½
New crop Cal. Oats	72½@ 82½

Corn.

Business doing in this cereal is mainly on local account and of slim proportions. Offerings from first hands are principally Large White, while the inquiry is mostly for Yellow. Values for the latter are being tolerably well sustained, but the market for White is weak.

Large White, good to choice	77½@ 82½
Large Yellow	92½@ 95
Small Yellow	95 @ 97½

Rye.

Both old and new rye are offering in greater quantity than is warranted by the demand. New is especially difficult to place satisfactorily.

Good to choice	70 @ 72½

Beans.

The market is devoid of firmness, and the outlook is discouraging for any change for the better being soon experienced. Prospects for the coming crop are reported good in all portions of the State. The growing crop may be seriously damaged, however, by early frosts or rains. Still, should there be no beans grown this year, the carry-over stock would likely prove sufficient for all needs.

Pea, fair to good, 100 lbs	$1 20 @1 35
Small White, good to choice	1 00 @1 15
Lady Washington	75 @1 00
Butter, small	1 10 @1 25
Pinks	65 @ 80
Bayos, good to choice	85 @1 00
Reds	1 20 @1 30
Red Kidneys	1 25 @1 50
Limas, good to choice	2 25 @2 40
Black-eye Beans	1 25 @1 50

Dried Peas.

Not many offering from first hands and very little inquiry at present. Quotations are based on latest transactions.

Green Peas, California	$1 15 @1 30
Niles Peas	1 20 @——

Buckwheat.

Virtually nothing doing and consequently little upon which to base quotations.

Good to choice	80 @ 90

Wool.

Market is quiet and lacks the rather buoyant tone displayed a few weeks ago. Local speculators and some Eastern operators took hold in fairly active fashion after the nomination of the McKinley ticket, but they have since subsided and have been lately inclined to hedge, or to average their wools down by making lower purchases. Stocks of greased wool now in warehouse are not of heavy volume. The inquiry which at present exists is mainly for choice northern, with buyers and sellers about a cent apart in their views.

SPRING.

Humboldt and Mendocino	10 @12
Northern California free	7 @ 9
Northern defective	5½@ 7
San Joaquin Foothill, good to choice	6 @ 7½
San Joaquin, 12 months	4 @ 6½
San Joaquin and Southern, 6 months	4 @ 6
Nevada, as to condition	7 @ 9
Oregon Valley, select	9 @10½
Oregon Valley, low grade	8 @ 9½

Hops.

A New York authority reports the hop market on the Atlantic side as follows:

The local market is still very quiet, but there is nothing to suggest any change in the general situation. Stocks in dealers' hands are moderate and holders are not anxious to sell at the prices that would have to be accepted to effect important business. But neither brewers nor exporters are much interested and it is hardly probable that there will be much activity before the new crop. Former quotations represent as nearly as may be holders' views, and they are realized on such sales as are making, though the small quantity of stock that will grade as choice makes our outside figures—7½@8c—seem extreme. Favorable weather is bringing the vines along in good shape in the yards that have had proper cultivation, but there is nothing to indicate any change from previous estimates of the crop either in this State or on the Pacific coast. Further contracts have recently been made on the coast for a period of three years at 6c., 7c. and 8c., respectively. Cable advices from Germany say that the crop looks well, and and there has been still further improvement in the English plantations.

Buyers in this market show a little more disposition to operate than for some time past, but prices obtainable are still at a very low range and are devoid of encouragement to the producing interest. Old can only be sold at a decided loss, while bids on new to arrive—6@7½c—the latter figure for favorite marks, afford no profit to the grower.

Fair to choice, 1895 crop	2 @4

Hay and Straw.

Hay arrived more freely than the preceding week, and was in generally unsatisfactory shape for the producing and selling interest. Choice wheat hay had been moving off in tolerably good shape, but even this sort went at reduced figures the current week, and for all other descriptions the market was decidedly soft.

NEW HAY.

Wheat	7 50@10 00
Wheat and Oat	6 50@ 8 50
Oat	5 00@ 7 50
Barley	6 00@ 7 50
Clover	5 00@ 7 00
Stock Hay	4 00@ 5 00
Alfalfa, first cutting	4 00@ 5 00

OLD HAY.

Wheat, fair to choice	8 00@11 50
Straw, ₱ bale	30@ 40

Millstuffs.

Bran is quotably lower. The tendency on most other millstuffs was to easier figures.

Bran, ₱ ton	12 00@14 00
Middlings	14 00@16 00
Barley, Rolled	15 25@15 50
Cornmeal	19 50@20 00
Cracked Corn	20 50@21 00

Hides, Pelts and Tallow.

A local firm, prominent in the hide and leather trade, has the following in its last letter circular:

During the past few weeks hides and leather have been very quiet and prices nominal. Wet Salted hides rule at prices which are relatively higher than those obtainable in the East by about 1c per pound. This market is caused by small stocks obtainable in this city.

Dry Flint hides are somewhat weaker, prices having declined in New York and Boston.

Dry kips are quiet at lower rates than Dry hides.

Wool and Sheepskins are dull unless offered at very low figures, and without much prospect of any improvement.

Tallow is dull at low values.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	7 @ 7½	6 @ 6½
Medium Steers, 48 to 56 lbs	6 @ 6½	5 @ 5½
Light Steers, under 48 lbs	— @ 5	— @ 4
Heavy Cow Hides, over 50 lbs.	5 @ 5½	4 @ 4½
Light Cow Hides, under 50 lbs.	— @ 5	— @ 4
Wet Salted Kip	— @ 5	— @ 4
Wet Salted Veal	— @ 6	— @ 5
Wet Salted Calf	7 @ 8	6 @ 7
Dry Hides, round lots, 9@10c	10½@11	8 @ 8½
Dry Kip and Veal, 11 to 16 lbs	8 @ 9	— @ 7
Dry Calf, under 4 lbs	— @15	— @10

Pelts, long wool, per skin	50 @60
Pelts, medium, per skin	40 @50
Pelts, short wool, per skin	20 @35
Pelts, shearling, per skin	10 @15
Deer Skins, best summer	— @30
Deer Skins, good medium	15 @25
Deer Skins, thin winter	7 @10
Elk Hides	8 @ 9
Tallow, good quality	3 @ 3¼
Tallow, No. 2	2½@ —
Goat Skins, perfect	20 @35
Goat Skins, damaged	10 @20
Kid Skins	5 @ —

Seeds.

Market for mustard seed presents a firm tone, but there is little stock here to operate upon at present. Reports from the Lompoc section, where most of the mustard seed in this State is grown, are to the effect that there will not be a quarter crop and that the quality will be poor.

	Per ctl.
Mustard, Yellow	1 60@1 75
Mustard, Trieste Seed	2 50@2 75
Mustard, Wild Brown	1 50@1 75
Flax	1 70@1 75

	Per lb.
Canary	2¼@2¾
Rape	2 @2¼
Hemp	3¼@3½
Alfalfa, Utah	7 @7½

Potatoes.

Supplies of ordinary qualities, mainly from Sacramento river sections, were heavy and the market for this class of stock was wholly devoid of firmness. Choice to select were more plentiful than the preceding week, but prices for these were much better sustained than for the low grades.

IN SACKS.

Early Rose, River, ₱ cental	30@ 40
Peerless, River	30@ 50
Garnet Chile, Mission	50@ 70
Burbanks, River	30@ 50
Burbanks, Salinas	60@ 85

IN BOXES.

Early Rose, River, ₱ cental	30@ 50
Burbanks, River	30@ 60
Burbanks, Salinas	75@1 00

Honey.

Stocks in this center are small, and a considerable proportion of the honey now here is of the crop of 1895. There will be little California honey this season; but with an absence of export demand, supplies may prove ample.

White Comb, 1-lb frames	11 @12½
Amber Comb	7½@10
Extracted, White Liquid	5 @ 5½
Extracted, Light Amber	4½@ 4¾
Amber Colored and Candied	3¾@ 4
Dark Tule	2¾@ 3

Beeswax.

There is a tolerably wide range in values and a correspondingly wide range in the quality of offerings.

Fair to choice, ₱ lb	22@26

Live Stock and Meats.

Hogs are in fair request, the preference being given to small and medium bard grain fed.

Beef, 1st quality, dressed, net ₱ lb	5 @—
Beef, 2d quality	4½@ 4¾
Beef, 3d quality	3½@ 4
Mutton—ewes, 4½@5c; wethers	5 @ 5½
Hogs, hard grain fed, light fat	3⅝@ 3¾
Hogs, large hard	3⅛@ 3¼
Hogs, soft and feeders	2¾@—
Hogs, country dressed	4⅝@ 4⅝
Veal, small, ₱ lb	5 @ 6
Lamb, spring, ₱ lb	5 @ 6

Poultry.

The market was somewhat easier than during preceding week, but, considering the increase in arrivals, prices were fairly well sustained. There were quite free receipts of California poultry and one carload of Eastern. Turkeys were without material change. Chickens averaged a little lower. Ducks were in poor request. Geese tended slightly in favor of sellers.

Turkeys, live hens, ₱ lb	12@ 13
Turkeys, live gobblers	13@ 14
Turkeys, young	17@ 19
Hens, Cal., ₱ doz	4 00@5 00
Roosters, old	4 00@4 50
Roosters, young, (full-grown)	4 00@5 00
Fryers	3 25@3 50
Broilers, large	3 00@3 25
Broilers, small	1 75@2 50
Ducks, young, ₱ doz	2 50@4 00
Ducks, old	2 50@3 00
Geese, ₱ pair	1 00@1 50
Goslings, ₱ pair	—@—
Pigeons, ₱ doz	1 25@1 50

Butter.

Owing to a marked falling off in the production in Marin and other bay counties, and also to a decrease in the arrivals from the Humboldt and Del Norte dairy districts, the market is ruling higher, especially for choice to select fresh. Very little butter has been ar-

riving from the southern coast dairy section for weeks past. Market for packed hutter continues quiet, but the advancing rates for fresh will tend to bring packed descriptions into more general request.

Creamery extras, ₱ lb	17 @17½
Creamery firsts	16 @—
Creamery seconds	14 @15
Dairy select	15 @—
Dairy seconds	13 @14
Dairy, soft and weedy	9 @11
Mixed store	10 @12
Creamery in tubs	15 @16
Dairy in tubs	14 @15
Firkin, Cal., choice to select	14 @15
Firkin, common to fair	11 @12½

Cheese.

This market remains firm, with receipts and spot supplies of light proportions. Producers will do well to sell at present prices, for any further hardening in values which may take place is likely to be more than offset by the shrinkage in weights. Eastern markets are weak, and the stiff prices will tend to encourage heavy importations.

California fancy flat, new	7½@—
California, good to choice	6½@ 7
California, fair to good	6 @ 6½
California, "Young Americas"	7 @ 8

Eggs.

Choice to select, direct from hennery or ranch, are arriving very sparingly and are in good request, commanding slightly better figures than during preceding week. Further hardening of values for strictly fresh is likely to be experienced in the near future. There is poor prospect of defective qualities commanding very firm prices. Cold storage stock will be taken in preference to inferior fresh.

California, select, large white and fresh	17 @—
California, select, irregular color & size	13 @16
California, good to choice store	11 @13
California, common to fair store	9 @11
Oregon, prime	11½@12½
Eastern, as to section and grading	13 @15
Eastern, seconds	9 @11
Duck eggs	14 @15

Bags and Bagging.

Grain bag market is quiet, and is likely to so continue for the next few months, or until contracting for next season begins. There is a considerable quantity still on hand, but importers will carry over the surplus rather than make any special cuts on current rates.

Grain bags, 22x36, spot	4¼@ 4½
Wool sacks, 4 lb	28 @—
Wool sacks, 3½ lb	26 @—
Gunnies	12 @—
Bean bags	4 @ 4¼
Fruit sacks, cotton	5½@ 7½

Fruit Market.

The aggregate of arrivals of mid-summer fruits was not particularly heavy, especially as compared with recent years, but most varieties were fairly well represented. There were no radical fluctuations in values, but it was the exception where strictly choice fruit did not tend in favor of sellers.

Apples made a better display than previously, both as to quantity and quality. Some choice to select Gravensteins are now arriving, and are bringing good figures, all things considered. Scrubby and wormy fruit receives little attention. Producers would serve their interests better by feeding such stock to hogs or throwing it away. In many instances this inferior fruit nets the grower nothing and tends to lower the price of better qualities.

Apricots were in decreased receipt and market was firm, canners being active buyers. Fancy Moorparks were especially scarce and bids were reported on the same up to $40 per ton. For Royals $35 was an extreme hardly warranted as a quotation, the quality having to be choice to command $32.50, and exceptionally firm for any higher figure.

Peaches were in better supply, as compared with the demand, than during the preceding week, and market ruled easier.

Pears were plentiful and lower, with prospects of this fruit continuing in liberal supply and very cheap for some weeks to come.

Plums were in only moderate supply, and most kinds in prime to choice condition, more particularly Peach plums, commanded fairly steady rates.

Prunes now arriving are of the Tragedy and German varieties, and are selling to very fair advantage.

Figs of first crop are almost out, and are not offering in sufficient quantity to warrant quoting.

Apples, Gravensteiu, 50-lb box	75@ 1 00
Apples, Gravenstein, fancy, 4-tier	1 00@ 1 25
Apples, Red Astrachan, 50-lb box	25@ 75
Apples, Green, ₱ 50-lb. box	30@ 50
Crabapples, ₱ box	30@ 50
Apricots, ₱ ton	20 00@32 50
Apricots, Royal, ₱ 6-in. box	50@ 75
Apricots, Royal, ₱ 22-in. box	35@ 50
Figs, Black, ₱ 2-tier 15-lb box	—@ —
Figs, Black, ₱ 1-tier box	—@ —
Figs, White, ₱ box	—@ —
Nectraines, Red. ₱ box	50@ 65
Nectarines, White, ₱ box	35@ 50
Prunes, Tragedy and German, ₱ crate	75@ 90
Peaches, Early Crawford, per box	35@ 50
Peaches, fancy wrapped, ₱ box	40@ 60
Peaches, good to choice, ₱ box	25@ 50
Pears, Bartlett, No. 1, per box	40@ 60
Pears, Bartlett, No. 2, per box	30@ 40
Pears, early kinds, ₱ box	25@ 50
Plums, Peach, ₱ box	50@ 75
Plums, other kinds, lb box	35@ 50
Plums, ₱ crate	40@ 75

Berries.

Currants were in light receipt, and will soon be out of season. Blackberries and raspberries were in fair supply, and market for same was rather favorable to buying interest. Strawberry market lacked firmness.

Blackberries, ₱ chest	2 00@ 3 00
Currants, Red, ₱ chest	2 50@ 4 00
Raspberries, ₱ chest	2 00@ 4 00
Strawberries, Longworth, ₱ chest	3 00@ 4 00
Strawberries, Large, ₱ chest	2 00@ 3 00

Grapes.

Early white varieties are arriving from different portions of this State, and a few black are being received from Arizona. It is the exception, however, where any grapes now offering are sufficiently ripe to be desirable. More attractive stock is likely to put in an appearance at an early day.

Black, from Arizona, per crate	$1 00@1 25
Thompson's Seedless, from Ariz., crate	90@1 00
Fontainebleau, Cal., per crate	60@ 75
Fontainebleau, Cal., per box	40@ 50

Miscellaneous.

Watermelons are now arriving in carload lots almost daily, and are offering in a jobbing way at $10@15 per 100. A few canteloupes were received, not enough to warrant quoting. The quality was rather ordinary.

Dried Fruit.

Little or nothing of an encouraging order has developed in the dried fruit trade in this center since last review. Apricots are in about same position as last noted, with business exceedingly light. A few small lots have changed hands within range of 6@6½c, San Francisco delivery. Eastern buyers are not taking hold to any noteworthy degree. Numerous offerings have been made at 6½c, without finding takers. A representative of a leading house in this interest sums it up briefly as "wholly a buyers' market." Most of the apricots this season are below the usual standard. They did not develop much saccharine matter in maturing, and when dried are more or less skinny and flabby. In other dried fruits there is practically nothing doing, and values for the same should be regarded as mainly nominal. Stocks other than apricots are all of 1895 crop and are of light proportions.

Late mail advices from New York report as follows on the dried fruit market in that center:

The market for evaporated apples is unchanged in tone or prices. Only a very moderate quantity of stock remains in first hands and business as usual at this season of year is slack. Jobbers have but little call for them, and the expert trade is practically over for the summer. Quotations are realized on such sales as are made, but it would be impossible to move any quantity of stock at the top rates. Some negotiations in future are under way, but no deals closed as yet. Makers ask 5½c for prime wood dried, and 5¼c for prime fruit dried on metal trays, October delivery; exporters bid 5c for round lots of wood dried. Sun-dried sliced and quartered apples have ruled dull again this week, and there has been a disposition to concede a little in prices on some grades. Jelly makers have had to pay an extreme price for the few lots of cores and skins available, up to 3½c or higher; stock now practically exhausted and we drop the quotation. Southern peaches without demand. Raspberries neglected and weak. Only a few blackberries left and jobbing sales are reported at strong prices. Cherries steady but dull. Apricots unchanged; samples of new Royals are shown for which much higher prices are asked than are obtainable. Some trading in California peaches; prunes are firm.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	6 @ 6½
Apples, in boxes	4½@—
Peaches, unpeeled	3½@ 4
Peaches, peeled	9 @11
Pears, peeled and sliced	4 @ 7
Pears, quartered	4 @ 7
Plums, pitted	3 @ 4
Prunes, in boxes, 4 sizes	3½@—
Prunes, in sacks, small sizes	1½@ 3

COMMON SUN-DRIED.

Apricots, ordinary	— @ —
Apples, sliced	1½@ 2
Apples, quartered	— @ —
Peaches, unpeeled	2½@ 3
Pears, quartered, 1½@3c; sliced	3 @ 3½
Plums, unpitted	1 @ 1½

Raisins.

There are very few raisins of prime quality now in stock, and there is little upon which to base quotations for last year's product. The market for the coming yield is moderately firm in tone, as the output will be much lighter than last season. For raisins, of this season's curing, from first-class vineyards, 2½c in the sweat-boxes is being bid, mainly for layers, on shipments up to Oct. 15th.

Boxes, London layers, 20-lb box	75@ 85
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ₱ lb	3¾@4
Loose Muscatel, 3-crown	3¼@3½
Loose Muscatel, 2-crown	3 @ —
Sultanas	4½@ —

Citrus Fruit.

Orange market is without noteworthy feature, there being few now in stock of any description, and the demand for them is also very limited.

Lemons are meeting with good custom and are commanding improved figures, due largely to the scarcity and high price of limes. The last consignment of Mexican limes for this port was lost on the steamer Colombia wrecked off Pigeon Point.

Oranges—Wash. Navels, ₱ box	3 00@ 3 50
Cal. Mediterranean Sweet	2 00@ 3 00
Cal. Seedlings	1 25@ 2 50
Lemons—Cal., select, ₱ box	4 00@ 4 50
Cal., good to choice	3 00@ 3 50
Cal., common to good	2 00@ 2 50
Lemons—Mexican, ₱ box	— —@— —
Cal., small box	1 50@— —

Nuts.

Spot supplies are mainly almonds in the hands of jobbers. The coming crop of almonds will be light and the quality under average. The white walnut crop of this State is reported good, both as to quantity and quality. Coming on a market almost bare, the crop will probably pass speedily into distributive and consuming channels.

California Almonds, paper shell	7 @ 8
California Almonds, soft shell	4 @ 6
California Almonds, standard	3 @ 3½
California Almonds, hard shell	2 @ 2½
Walnuts White, paper shell	11 @12
Walnuts White, soft shell	9 @10
Walnuts White, Cal., hard shell	7 @ 7½
Peanuts, Cal., fair to prime	5½@ 6
Peanuts, Eastern hand-picked	5½@ 6½
Pine Nuts	12 @14

Vegetables.

Nearly all kinds in season are offering in ample quantity to cause low prices to prevail. Red onions are no longer quotable, yellow being quite cheap and being given the preference by all buyers. The change in quotable values for other vegetables are mostly to lower figures.

Asparagus, Fancy, ₱ box	— —@— —
Asparagus, common to good, ₱ box	— —@— —
Beans, String, ₱ lb	1½@ 3
Beans, Wax, ₱ lb	1½@ 3
Beans, Garden, ₱ lb	2@ 3
Cabbage, choice garden, ₱ 100	50@ 60
Cauliflower, ₱ doz	40@ 50
Corn, Alameda Sweet, ₱ crate	1 25@ 1 75
Corn, Berkeley, ₱ crate	85@ 1 00
Corn, Vacaville and Winters, ₱ crate	50@ 1 00
Corn, Green, ₱ sack	50@ 1 00
Cucumbers, Alameda, large box	50@ 75
Egg Plant, ₱ box	75@ 1 25
Garlic, ₱ lb	1½@ 2½
Okra, Green, ₱ box	75@ 1 25
Onions, Red, ₱ cental	—@ —
Onions, Yellow, good to choice	30@ 40
Peas, Green, ₱ sack	50@ 1 00
Peppers, Green Chile, ₱ box	25@ 75
Pepper, Bell, ₱ large box	75@ 1 00
Rhubarb, ₱ box	50@ 75
Squash, Bay, ₱ large box	15@ 25
Tomatoes, River, per large box	75@ 1 00
Tomatoes, Vacaville, ₱ box	20@ 40

California Fruit Sales.

NEW YORK, N. Y., July 16.—The Earl Fruit Company sold California fruit at auction to-day as follows: Pears—Bartletts, 75c@$1.90 per box. Prunes—Tragedy, 80c@$1.15 per half-crate. Plums—Peach, 75c@$1.15 per crate. Peaches—Hale's Early, 55@70c per box. Apricots—Royals, in poor condition, 20@65c per crate.

CHICAGO, ILL., July 16.—Porter Bros. Company sold to-day at open auction California fruit as follows: Plums—Burbank, $1.10@2 per half-crate; Peach, 95c@$1.75; other varieties, $2.25@1.20. Pears—Bartletts, $1.15@1.45 per box; Clapps, 85c per half-box. Prunes—Tragedy, 45c@$1.45 per half-crate. Peaches, 10@70c. Apricots, 80@95c per half-crate.

BOSTON, MASS., July 18.—Porter Bros. Company sold to day at open auction California fruit as follows: Prunes—Tragedy, 90c@$1.25 per half-crate. Pears—Bartletts, 90c@$1 15 per box. Plums—Norman, $1.75 per half-crate; Oregons, $1@1.10; other varieties, 80c@$1.05. Peaches—St. Johns, 90c per box; others, 25@65c.

NEW YORK, N. Y., July 18.—The Earl Fruit Company sold California fruit at open auction as follows: Prunes—Tragedy, $1.05@1.30 per half-crate. Plums—Japan, 85c@$1.20 per half-crate; Peach, 75c@$1.20. Peaches—Hale's Early, 60@85c per box.

CHICAGO, July 21.—The Earl Fruit Company sold California fruit at the following prices: Prunes—Tragedy, 80c@$1.40 per half-crate. Plums—Peach, 95c@$1.25; Burbank, 80c@$1.75; Norman Japan, $1.35; Royal Native, 45c@$1; Washington, 80@95c. Pears—Bartlett, $1.10@1.45 per box. Peaches—St. John, 20@75c.

NEW YORK, July 21.—The Earl Fruit Company sold California fruit at the following prices: Plums—Burbank, $1.10@1.80 per half-crate; Japan, 70c@$1.40; Purple Duane, 85c@$1; Peach, 75@95c. Prunes—Tragedy, 95c@$1.40. Peaches—Crawford, $1.15@1.25 per box; Hale's Early, 60c. Pears—Bartlett, $1.35@1.60 per box.

NEW YORK, July 21.—Porter Brothers Company sold to-day at open auction: Pears—Bartlett, $1.40@2.20 per box; Souvenir de Congress, $1.60. Plums—Japan, $1.25@2.30 per half-crate; Abundance, $1.20; other varieties, 80c@$1.20. Prunes—Tragedy, $1.05@1.30 per half-crate; German, $1.10. Peaches—Early Crawford, 75c@$1.15 per box; others, 45@75c.

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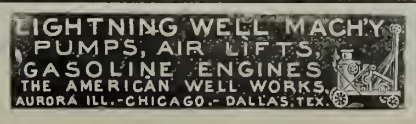

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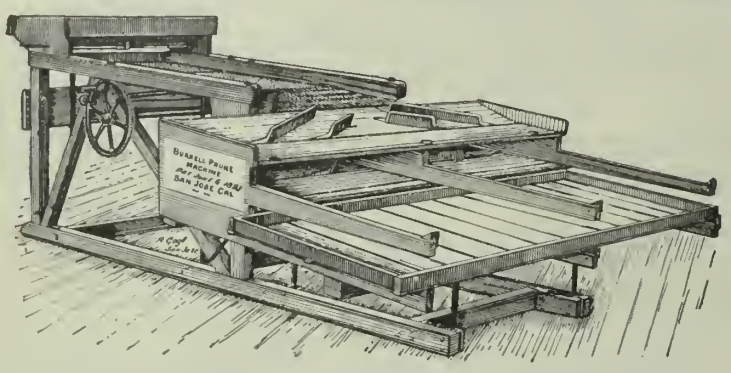

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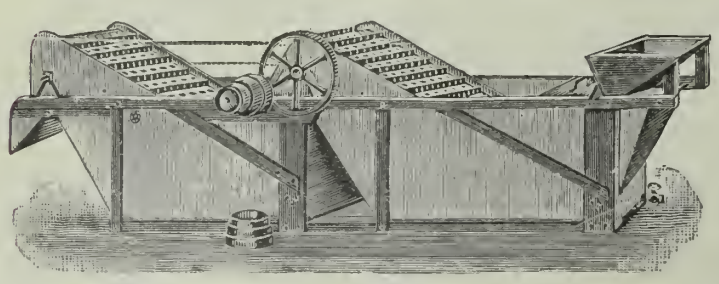

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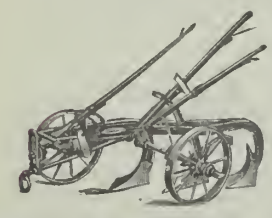

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THE PACIFIC RURAL PRESS

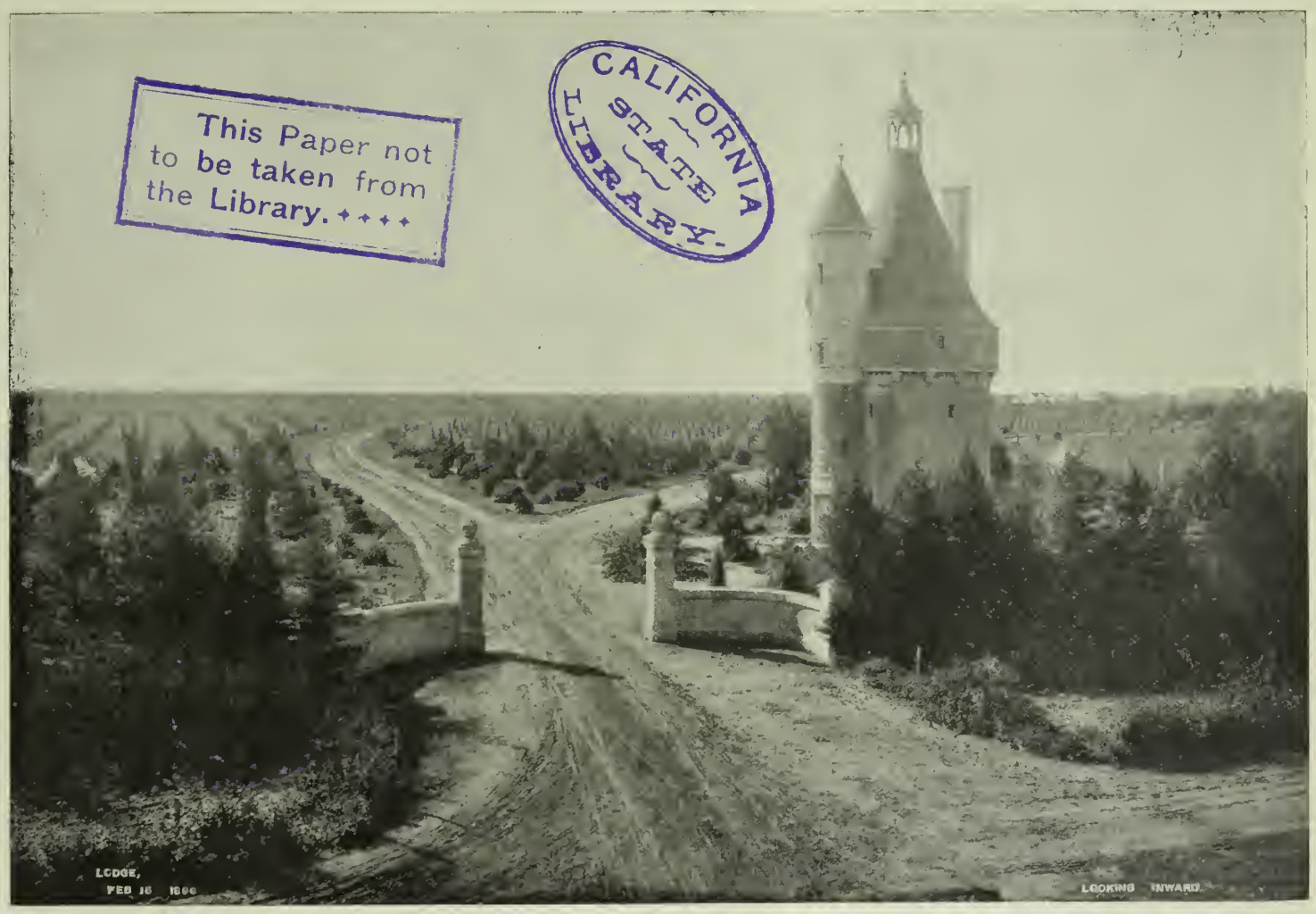
AND CALIFORNIA FRUIT BULLETIN.

Vol. LII. No. 5. SAN FRANCISCO, SATURDAY, AUGUST 1, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.

Chateau Fresno.

As illustrating the grander plans for the development of the great interior plains of California, we give on this page two views taken at "Chateau Fresno," the fine property of M. Theo. Kearney, a few miles west of the great raisin city. Mr. Kearney has been interested in the development of Fresno county since its beginning on modern lines, and during the last few years has directed his energies toward the creation of a country seat worthy of Californian opportunities. His effort is not yet complete, but he can show improvements as notable in their way as any in the State. Some idea of the style and extent of the estate can be had at its very gateway, as shown in the upper engraving. We here have an entrance and castellated lodge of grand proportions and the group of home buildings way distant at the sky line. The avenue from which we turn into the gateway is one of the handsomest in the State, and for miles from Fresno westward is occupied on either side with home places and horticultural tracts. The avenue has double lines of shade trees and ornamental plants. Inside, Mr. Kearney's grounds are very extensive plantations of ornamentals selected and set with great taste and effect.

The second engraving gives a near view of the home and farm buildings at Chateau Fresno and in the foreground the park with its young trees and its lake smiling in its occupancy of what was but recently a desert. Mr. Kearney took several sections of such land, and brought it all under irrigation.



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GATEWAY AND LODGE AT CHATEAU FRESNO, ESTATE OF M. THEO. KEARNEY.

PARK, LAKE AND BUILDINGS AT CHATEAU FRESNO, NEAR FRESNO CITY.

PACIFIC RURAL PRESS.

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Advertising rates made known on application.

Any subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

Our latest forms go to press Wednesday evening.

Registered at S. F. Postoffice as second-class mail matter.

ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, August 1, 1896.

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The Week.

Weather and Crops.

The long weeks of excess of heat in the interior were broken at the close of last week, and a sort of a meteorological revulsion transpired in the shape of showers of considerable breadth and wetness. Sprinkles there were almost everywhere throughout the State, but locally the precipitation was not appreciable. At Fresno one-tenth of an inch fell, and more at some adjacent points. There were heavy rains reported from the mountains east of Bakersfield, causing the Kern river to rise 18 inches, giving plenty of water for irrigation, as water for that purpose was getting quite scarce. There were heavy rains along the Colorado river, which caused that stream to rise 18 inches at Picacho, thereby benefiting all crops grown on the bottom lands of that river in that vicinity. It does not appear that harm was done except to hay in late mountain valleys, but they are accustomed to heavy midsummer showers. Grain and fruit are still being gathered in, but no change in the previously described conditions is noted.

The following data for the week ending 5 A. M. Wednesday, July 29, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	....	....	.11	.12	64	46
Red Bluff	....	....	.16	.02	100	58
Sacramento	....	...	.04	T	*	54
San Francisco	T	.04	*	.02	68	53
Fresno	....	.06	....	T	100	58
San Luis Obispo	...	.04	....	*	80	56
Los Angeles	T	T	....	.03	84	54
San Diego	T	T	....	.01	76	58
Yuma	.02	32	.01	.14	106	74

* Indicates no record.

Col Hersey's Observations in Oregon.

Col. Philo Hersey of San Jose has just returned from a pleasure trip to Oregon and thus reports his observations:

"The fruit trees in the section of the country I traversed had a healthy appearance. They have good growth. The soil is well adapted to apples, pears and cherries. A large acreage is planted to Italian prunes. These are larger than the French prunes, but more acid. The crops of prunes, peaches, cherries, pears and apricots this year in that section will be very light—hardly enough to supply the home market. This was due to the cold and wet season when the trees were in blossom. The dealers and producers in that section, however, are sanguine of making it a great fruit-producing section—in fact, of excelling California. Of course, I could not see the outlook in the same light, though they may produce an enormous supply of apples, pears and cherries and many prunes of the Italian variety. To accomplish this, however, they will have to exercise more care in attending to their orchards. In cultivation, pruning and neatness, the orchards I saw in Oregon do not compare with those of this valley. Vegetables and grain are grown between the trees in many instances, and the ground is not kept in proper condition. The land about Portland and down the Willamette river as far as Salem is well covered with timber. There is an enormous amount of this unimproved land in that section, some of it containing 300 cords of wood to the acre. This land can be purchased at from $20 to $25 an acre. It costs about $75 an acre to clear it. Many land dealers are selling this property on time to Eastern people. The contracts specify that the owner shall clear the land, plant it to fruit trees and cultivate and care for it for four years for a consideration of $300 an acre, with 6 per cent interest on deferred payments. The climate of Oregon prohibits drying the fruit in the sun. It is all evaporated, which increases the cost of producing dried fruit, to say nothing of the difference in the quality."

Carriers in Commerce.

The use of homing pigeons in the commerce of the port of San Francisco and in weather service seems likely to be tested. Albert Carlisle has offered to supply the Chamber of Commerce a number of trained birds from his Blue and Gold lofts in Berkeley, to be taken out to sea in ships and tugs and sent back with messages. He also promised in the event of such a service being established to promptly communicate by telephone any messages thus received at Berkeley to the Merchants' Exchange. Mr. Carlisle and Local Forecast Official Hammon addressed the members of the chamber recently in regard to the pigeon service. Mr. Hammon declared that such a service would be of great advantage to the local weather bureau, and Mr. Carlisle demonstrated the practicability of the proposed plan. The members of the chamber seemed greatly interested in the project and passed resolutions commending the proposed plan.

Hot Weather Reports.

A Fresno letter thus describes the hardships of the term of extreme heat which has just come to an end:

For almost three weeks prior to the 23d the average daily temperature has been 106°, and for two days it exceeded 110°. Seven persons have died from the effects of heat, and one dangerously ill patient was this morning taken to the County Hospital suffering from the effects of the hot spell. The heated term here commenced on July 3d and lasted nineteen days. The first victim was Joseph Pellegrini, a laborer at Herndon. He died within an hour after the symptoms of heat stroke occurred. At the inquest it was testified that he had partaken freely of ice water. A few days later Joe Toma, a German, employed as a baker in the City Bakery, was taken sick with well-marked symptoms of thermic fever and died within a few hours. Half an hour after death the abdomen was burning hot to the hand. James Downing was the next victim. Just before his death a thermometer in the axilla showed a temperature of 109°. Mrs. Lena Johnson, a resident of Easton, succumbed to the heat in a few hours and Edward Stokes was another victim. In all these cases death was attributed directly to thermic fever, or heat stroke, and so certified at the inquests. Two other deaths occurred indirectly from the effects of the hot spell, but were not certified as due to insolation. The record of deaths from sunstroke in this county has always been quite small, and it is believed that the unusual percentage of humidity aggravated greatly the effects of the abnormal temperature. The daily maxima here during the hot spell, as shown by the reports of the Weather Bureau, were as follows: July 3d, 105°; 4th, 100°; 5th, 103°; 6th, 105°; 7th, 108°; 8th, 110°; 9th, 111°; 10th, 111°; 11th, 110°; 12th, 106°; 13th, 105°; 14th, 106°; 15th, 103°; 16th, 104°; 17th, 103°; 18th, 105°; 19th, 106°; 20th, 107°; 21st, 102°. Dozens of horses have died in the harvest field, killed by the heat. Four of those employed on the Valley road grading work had to be killed on the trip from Athlone to this point. It was observed in most cases that the horses were stricken blind shortly before death. The earth is baked to a remarkable depth—in fact, no one yet heard from remembers to have seen the like in Fresno.

Big Shipment of Fruit to London.

That California fruit shippers continue to put faith in the London market is manifest by the continuance of shipments. A fast train of ten carloads left Sacramento Tuesday night, this being the fourth special train load for the season. It will be carried on fast time to New York and will there make close connection with one of the fast Atlantic liners. In reporting this shipment, the Sacramento *Record-Union* says:

The shipment of ten cars was made up of pears, plums and peaches, and no finer fruit was ever sent to the London market. Six carloads were furnished by Porter Brothers Company, of which four were loaded at Sacramento, consisting of fruit from the following growers: George A. White, O. R. Runyon, D. Hollister, Joseph Green, William H. Barry, W. J. Smith, O. P. Stuart, William Thisby and Jesse Aiken. Two cars came from Suisun, loaded by Alden Anderson. The balance of the train was made as follows: Frank H. Buck, one car; S. I. Roper and Sol Runyon (jointly) one car, and the National Fruit Association two cars. Local Manager Quigley has no fear of any competition that may come from the French growers. "England is too big a market," he said last evening, "to be seriously affected by a few carloads of fruit. There are millions of people there to be supplied, and there seems to be no good reason to fear that choice fruit like this now leaving California, arriving there in good condition, will not bring good returns. The people there must be made to know that this fruit can be had, and I am confident that a permanent market can be established there for regular shipments."

Santa Clara Fruit Shipments.

A San Jose dispatch, July 28th, says: During the year ending June 30th, 1896, prune shipments from this county were heavier than ever before. In that time 41,681,155 pounds of prunes went forward, against 27,107,815 for the year ending June 30th, 1894. This is an increase of over 14,000,000 pounds. The prune shipments for the season of 1893 were 38,704,350 pounds; 1892, 16,366,795; 1891, 22,528,985; 1890, 12,089,030. The following are the principal shipments for the year ending June 30th, 1895: Green fruit, 16,066,550 pounds; canned fruit, 14,414,485; dried peaches, 2,286,510; dried apricots, 2,221,565; other dried fruits, 453,465; wine, 8,654,515; garden seeds, 1,158,345. With the exception of prunes and garden seeds these shipments show a decrease when compared with the shipments of the season of 1894. Canned fruit shipments fell off over 3,000,000 pounds, green fruit 13,000,000, dried peaches 2,500,000, dried apricots 4,500,000, and those of all other kinds of dried fruit 800,000. Estimates of shipments for the coming year place the prune and seed shipments in excess of last year, and those of green and canned fruit, dried peaches, dried apricots, other fruit and wine equal if not greater than the great crop of 1894.

Bad Fruit Year in Oregon.

A Portland dispatch of 22d inst. says:

A. W. Mansfield, secretary of the Oregon Fruit Company, is in this city, having just returned from a trip around the State. He reports the fruit crop of Oregon to be a general failure. He said: "Early in the season growers and shippers had made a conservative estimate that the crop would yield about 800 carloads, but now it is evident that the output will not be over 200 carloads at the utmost. This loss of over 600 carloads, estimated at only one-half cent a pound, means a loss to the growers of this State of over $500,000 Some of the large orchards have practically no fruit at all. The crop in the Willamette valley in almost every line is very short. The French prune crop through the Rogue River valley will turn out better than expected. The Italian prunes are what the growers depend on for profits, but of these there are none. In fact, it will be impossible to get out any fruit in car lots. Hood river had a fair crop of strawberries, some 20,000 crates—a little more than last year. The apple crop will range from half to two-thirds. The Dalles will have a two-thirds crop—about thirty cars of peaches, plums, prunes and pears. At Grant's and Blaylock's, above The Dalles, they will have about seven carload lots of mixed fruit. Grande Ronde valley, around La Grande, Union and Coos, will have from fifteen to twenty carloads. This is the only valley where there will be a fair prune crop. As an illustration of the shortage in the Willamette valley, last year Yamhill county, which alone shipped between twenty and thirty cars, this year will have from two to three carloads. The Italian prune crop is a total failure. This prune is being made a specialty by the growers owing to its market value, green and dried. Prices here are governed by prices in California, and though not fancy, yet they are profitable."

Tuberculosis Alarm in Santa Clara County.

It is the opinion of experts that the dairy herds of Santa Clara county are very generally infected with tuberculosis and active steps are being taken to root out the trouble. On Tuesday of this week a meeting was held at San Jose for the purpose of taking steps to prevent the sale of diseased milk and looking to the inspection and extermination of tuberculous cattle and it was largely attended. Los Gatos, Santa Clara and Gilroy were represented by municipal officers. The Board of Health, the Common Council, the Supervisors and representatives of the medical fraternity were present, as were also a large number of dairymen and cattle-owners of the county. Chairman Greeninger of the Supervisors presided.

Veterinary Inspector Spencer said since March 20 he had examined 892 head of cattle. Of this number 225 had been found to be diseased. During July 331 cattle had been examined. The state of affairs was found to be appalling. The dairymen have ordinarily submitted gracefully to inspection, and until lately had requested the slaughter of diseased cattle. Over eighty head of cattle had been slaughtered. Those who refused to kill their cattle threatened to drive them to other counties.

Dr. Simonton, president of the Santa Clara County Medical Society, said that from July, 1894, to July, 1895, there were 11,349 deaths in the State, of which tuberculosis stood at the head with 1789, pneumonia 889 and stomach troubles 738. The disease has in recent years been discovered to be not inheritable, but a communicable disease, and he asked: "What right has anybody to deal out and sell poison to his neighbors, to children?" The effect was appalling, said the doctor, and he cited that there was plenty of law to prevent the sale of this poison in meat or in milk, and all that was needed was backbone in the authorities to enforce the laws.

The question of inspecting the herds and killing the diseased cattle was discussed at great length by the representatives of the several cities and towns present, a great many dairymen and cattle-owners joining. A resolution was finally adopted instructing Veterinary Inspector Spencer to inspect the herds of the county and to kill the condemned animals; but, before inspecting, to get a signed agreement from the owner of the same to submit to the killing of the diseased cattle. The inspector was also instructed to report each month the owners of dairies who refused to submit to inspection, and their names will be published.

The Annual Fruit Glut.

For some days past the receipts of pears at San Francisco from Sacramento river points has been very heavy and many hundreds of boxes have gone to waste. On Tuesday whole boxes of fine fruit were freely given to whoever would cart them away from the Clay-street dock. At the same time, in the retail stores throughout the city, pears were selling freely at 60 cents to $1 per box.

Pith of the Week's News.

THE Christian Endeavor convention is in session this week at Santa Cruz.

THE Methodist summer encampment is in session this week at Pacific Grove.

"NO CHINESE NEED APPLY" is the rule this season at the Chico cannery. About 130 hands are employed.

GENERAL JOHN BIDWELL has resigned as a trustee of the State Normal School at Chico on account of ill health.

THE projected carnival in San Francisco has been "postponed until April," which signifies that it will never again be heard of.

FLOODS in the Jogwan-Ji river in Japan have inundated vast districts, destroyed property of incalculable value and drowned many thousands of people.

PITTSBURG and vicinity was the scene of a death-dealing hurricane on Tuesday of this week. Eight persons were killed and many were badly hurt. The damage to property was very great.

THE appeal in the Durrant case reached the Supreme Court on Tuesday. The decision, it is said, will be rendered in four months. In the meantime the murderer is living at the expense of the tax-payers.

LONDON, July 28.—An Odessa dispatch to the *Times* announces that official reports are to the effect that the harvest has been a failure throughout the most fertile grain-producing districts in the south of Russia.

CANDIDATE BRYAN is said to be a poor man, his whole property consisting of his library and household furniture. At the date of last assessment he reported his cash on hand at $106.50. The whole cost of his nomination at Chicago was $42.

PROF. CHARLES W. CHILDS, for many years head of the State Normal School at San Jose, has been deposed and his post given to Prof. A. H. Randall. Gov. Budd has all along been unfriendly to Childs, and the change is due to his influence.

IN former years an "advisory committee," composed of leading party men from all parts of the country, has been a feature of the Republican campaign organization, but there will be no such committee this year. Mr. Hanna thinks the national committee quite able to attend to the work without advice.

SPEAKER REED has decided to remain in public life and will be a candidate for re-election to Congress. His plan, so it is said, will be to again seek the speakership and to oppose extreme tariff legislation in the event of McKinley's election. Mr. Reed proposes to take an active part in the presidential campaign.

THERE is great indignation in San Francisco respecting the course of seven members of the Board of Supervisors which seem to be dictated by the grossest corruption. A public meeting has denounced them as traitors and their misdeeds are being considered by the Grand Jury with reference to a criminal prosecution.

DAVID DOUGLASS, sheriff of Nevada county, was killed on Monday by a highwayman who he was attempting to arrest. He was a native Californian, aged 38, and leaves a wife and child. The bandit who killed Douglass—and who was himself killed—turns out to be C. Myers, a stepson of Theodore Winters. Although given every opportunity by Mr. Winters, he preferred to lead a wild life.

IT is not likely that Justice Field will ever return to his duties in the Supreme Court, but it is said that he is determined to hold his place until the appointment of his successor shall devolve upon a President other than Mr. Cleveland. The story is that Cleveland once put a slight upon the aged judge and the latter does not wish him to have the satisfaction of naming his successor.

THE platform adopted by the Populist convention at St. Louis demands the free coinage of silver at the ratio of 16 to 1, denounces the recent bond issue, denounces the special gold contract decision of the Supreme Court, calls for a graduated income tax and demands the establishment of postal savings banks. In the matter of transportation, it declares for public ownership of railways and telegraphs and denounces the Pacific Railroad refunding project. Its general propositions are for the "initiative" and referendum, the election of President by popular vote, the reduction of official salaries, declares sympathy with Cuba, etc., etc.

DR. JAMESON, leader of the Transvaal raid of last fall, and a half-dozen of his aristocratic associates were on Tuesday convicted of violating the neutrality laws and sentenced to terms of imprisonment varying from seven to fifteen months, without labor. This was the least possible punishment which could be given and is intended as a merely nominal vindication of the law. The convicted men have been and will continue to be treated as national heroes. It is not England's policy to really punish those who attempt to advance her dominion, no matter how illegal or violent their methods may be. Having now disposed of the tools in this Transvaal outrage, it remains for England to dispose of Mr. Cecil Rhodes. He was the instigator of the raid; it was his support that made it possible; the proofs against him have been submitted to the English Government by the Transvaal Government with the request that he be dealt with according to his crime.

NO DEFINITE steps have been taken by the anti-silver Democrats towards the setting up of an independent or gold ticket, and it is doubtful if it will be done. In the meantime it is very interesting to watch the course of the leading bolters. Mr. Cleveland has given no hint of what his position will be. Mr. Whitney has taken pains to say that he will not vote for Bryan. Secretary Olney has publicly made a similar statement. Secretary Carlisle, it is said, will swallow the lump in his throat and stand by the Chicago ticket. Secretary Hoke Smith will do the same thing. Secretary Lamont don't count, but he will wag whichever way Mr. Cleveland may wink. Secretary Morton is in positive opposition to the Chicago ticket, and it is believed that he would like to lead, in the character of Presidential nominee, the forlorn hope of the gold standard Democrats. Senator Hill of New York will, it is said, part company with the Tammany Society, that organization having formally accepted Bryan and free silver. Most of the greater Democratic papers in the East have come out squarely for McKinley, and their course is a pretty fair index of the sentiment of those who read and support them. The chances are that as the free silver forces of the country have combined in support of Bryan, so the advocates of gold will unite on McKinley.

THE Populist National Convention at St. Louis last week did what it was fore-ordained to do, namely, it nominated Wm. J. Bryan of Nebraska for the Presidency; but it was a result achieved amid a storm of controversy, and it is far from being satisfactory to the whole body of the party. The leaders, generally speaking, were for Bryan. Allen, Weaver, Llewellyn, Pfeffer, Butler, St. John, and others like them, of practical experience in political affairs, saw the opportunity to combine the silver forces of the country and were eager to take advantage of it, even though it might involve some sacrifice of party claims and some damage to the party organization. But there were others—notably, Mr. Ignatius Donnelly of Minnesota, Secretary Taubeneck of the National Committee and a whole host of Southern men—who, holding party interests above every other consideration, contended for a straight-out Populist ticket, in entire disregard of the existence of Mr. Bryan and of the Democratic stand for free silver coinage. The Bryan men were in the majority and easily made their leader, Senator Allen, the chairman; but the "middle-of-the-roaders" were nevertheless strong enough to be a very important factor in the proceedings. As a compromise, they proposed to nominate a straight-out Populist for Vice-President and then to indorse Bryan for the first place. This was agreed to and the thing was done; but at this juncture Bryan sent a message to the convention declining to accept its favors, unless Mr. Sewall, his associate on the Democratic ticket, should be included in the indorsement. This was something of a stunner. For twenty-four hours the problem was wrangled over, and the outcome was Mr. Bryan's nomination over his own protest. So the matter stands: The Populist candidate for the Presidency is Wm. J. Bryan, who is also the Democratic nominee; and the Populist candidate for the Vice-Presidency is Thos. L. Watson of Georgia. Thus Mr. Bryan is in the unique position of having two tails to his political kite. What he will do in this situation is not yet announced; but he will probably so manage it as to get the full Populist vote in those States where it will be of any practical value. No matter how this detail of the Vice-Presidency may be settled, the practical union of all the silver forces is now definitely assured. The Democratic party, the Populist party and the new Silver party are combined, in that they have all set up the same great issue and have named a single man as its champion. There is every reason to believe that in November Mr. Bryan will receive every silver vote in the country—that is, the vote of every man who believes in free silver and who also believes that silver is a higher issue than Protection.

Gleanings.

A CREAMERY agitation has been started at Nicolaus, Sutter county.

THE Yuba City cannery has made a large run on Washington gage plums.

PRUNES give every promise of turning out a good crop in the Yuba City district.

THE daily shipment of berries last week from Pajaro was 640 chests, or four carloads.

THE Fresno Dairy Association ships large quantities of cream to the Los Angeles market.

THE Napa County Supervisors are rapidly extending the facilities for road sprinkling.

SEVERAL prune orchards in the vicinity of Visalia have dropped a large share of their fruit due to the yellow mite.

OWING to the light fruit crop in the vicinity of Anderson the people of that place have abandoned the idea of holding a fair this Fall.

THE Knight's Landing creamery is turning out one-pound rolls and finds ready sale sale for them, many buyers preferring small forms.

ON the Sturgis ranch, near the Pacheco road, in Contra Costa county, last week, three large stacks of grain were burned by an incendiary.

THE Australian ladybug has appeared in large numbers about Corralitos and in the northern part of the Pajaro valley and is rapidly clearing out the woolly aphis.

"GRAIN-BUYERS," says a Davisville correspondent, "are anxious, it would seem, from the number of agents visiting our town. The chief demand is for brewing barley. I hear of no offers for wheat."

LAKEPORT *Bee*: "The management of Highland Springs believes in doing things in a hurry. Monday they took two tons of new barley to the mill, had it crushed and commenced feeding it that evening. It is seldom that grain is threshed, ground and consumed in the same day."

OROVILLE *Mercury*: "It is reported that between forty and fifty horses and mules have died from the excessive heat in the past ten days in and around Gridley, while being worked on combined harvesters. One man had nine mules die in one day on his machine. On Friday and Saturday the harvesters stopped work on account of heat."

DIXON *Tribune*: "James Campbell last week harvested fifty acres of wheat, which averaged twenty sacks to the acre, weighing 145 pounds to the sack, or a trifle over 48 bushels per acre. This result is mainly due to the rest given the land by fruit culture. A year ago, the trees proving unprofitable, they were cut down and the land sown in grain."

WATSONVILLE *Pajaronian*: "Waters & Porter established a berry record in the showing we published last week—28 chests in one picking from less than an acre of ground—but that record has to go. That same patch of ground has turned off 38 chests of strawberries in one picking this week. Nearly two tons of berries from less than an acre of ground in one picking! Can it be beaten?"

THE farmers of Woodland who are experimenting in beet culture find the sending of beets to the Spreckels refinery very unsatisfactory. Their complaint is that the refinery managers are very negligent in attending to the matter and there is an annoying delay in learning the outcome of experiments. They will, therefore, engage a chemist to come to Woodland and make the tests on the ground where the beets are grown.

TULARE *Times*: "The man who thinks people don't want to work, and wouldn't work if they had an opportunity, ought to have gone down to the cannery this afternoon about 1 o'clock. Several hundred of the brightest-looking women and girls in Tulare county were there ready to begin cutting fruit, and one could see by the expressions on their faces that it would have been a grievous disappointment if they had been denied an opportunity to work."

THE introduction of raisin-seeding machines, says the Fresno *Expositor*, is greatly increasing the consumption of raisins. Within the last few years there have been 109 patents granted for raisin seeders, including hand and power machines. Every first-class grocery in the East now has some kind of seeder, and when a customer buys a supply of raisins he can have the seeds removed while he waits—same as he gets his coffee ground.

THE Livermore *Herald* grows eloquent in descanting upon the success of the new Livermore creamery: "The creamery raises the dignity of the cow and enhances her value. Already the cow market of Livermore valley has taken a decided upward jump; good milch cows are salable to-day for almost twice the money that they would bring before the creamery started; and does not this new enterprise, for that reason alone, deserve the encouragement of our farmers?"

A CONTRIBUTOR to the Dixon *Tribune* says: "The tendency of our grain fields to run into wild oats and other undesirable growths ought to be an incentive to our grain growers to raise sheep, goats and such animals that can subsist on scanty feed. Placed on summerfallowed land, a band of a few sheep would in a short time rid the ground entirely of growing oats, and going further would clean the ground of oats and other seeds that hogs could not find. Some of our farmers own small bands of sheep, and they, as a rule, have the cleanest grain to be found. The idea has always been prevalent that sheep trample the ground solid and cut it up into paths, but this is a mistaken idea, as no harm can result from a small band of sheep scattering over a field, as has been demonstrated here beyond a doubt."

SAYS the San Jose *Tree and Vine*: "Dryers do not see their way clear to offer very large prices for fresh prunes. Some are willing to pay from $15 to $18 per ton. At these figures some who expected to sell their crop will now dry the fruit and take their chances. Every one now concedes that there will be a shortage in the crop; and if not too seriously depressed and injured by the old stock now in the hands of Eastern dealers, the market ought to improve beyond the present situation."

SUPT. STEWART of the Chino cannery has invented a machine for cleaning syrups off the tops of fruit cans. The *Enterprise* thus describes it: "It consists of twelve caps, around which are circular openings. The caps fit down over the cans and steam is forced out through the openings. No water can get into the cans, and their tops are entirely cleaned from any substance that prevents the solder from taking thorough hold and making the cans airtight. The machine is a great success."

TULARE *Times*: "A rodeo was made on the Harrell ranch yesterday, and it was discovered that the cattle are pestered with a new species of fly. It attacks an animal just over the weathers and works down the sides. In all his experience, Mr. Harrell says he never saw anything like them. They are small and quite long, and if they don't eat the cattle up they will be the means of starving them to death, for when they get on an animal he has no time to eat, as all his time is required to get away with the pests."

A SOLANO correspondent sounds this timely note of warning: "Some day before long our farmers will awaken to the fact that they do not possess sufficient horses and mules to carry on their farming operations with, if such is not the case already. We see daily farmers piling their grain in the fields and waiting for the end of harvest to haul it for the simple reason that they have no extra teams. Horses and other like stock have been cheap so long that our farmers have neglected to raise them and now having no extra money to buy more must necessarily do without."

SOLANO *Republican*; "The fruit companies, by working up a trade in the smaller Eastern cities, thereby securing a wider distribution of fruit, have been purchasing large quantities of green fruits during the past three weeks. Provided reasonable prices can be obtained, growers prefer doing their business in this way, as cash f. o. b. is preferable to involving the risk in consigning their products to Eastern auction markets. Sales of f. o. b. invariably net growers more money than consignments, and they receive cash for f. o. b. fruit as soon as it is shipped, which in itself is a great advantage."

THE San Jose *Mercury* boasts that Santa Clara county has the finest roads in the State, and that nearly every mile is sprinkled daily, whereupon the Lompoc *Record* says: "Santa Clara may have more miles of good road than any other county, but all who have traveled our Ocean avenue from town to the river say there is no other road in the State that equals it. There is not a single rut or defect in nine miles, and soon the entire length will be sprinkled twice per day. * * * One hundred dollars in sprinkling is estimated by those who have had years of experience and observation to be equal to $1000 expended in the old way of keeping roads in good condition for travel."

SAN JOSE *Mercury*: "According to the San Francisco *Report*, the milkmen of the State are about to organize so as to prevent the passage of a bill in the next Legislature compensating dairymen for cows that may be officially slaughtered on account of disease. Such a thing is preposterous. As well might the owner of a mad dog demand damages from the city because in the public interest the animal had been killed by a city official. We do not think the dairymen will enter any such combination. Their own interests require that their herds should be healthy, and they certainly should not object to the killing of animals which are diseased and capable of spreading the contagion to cows that are not affected."

THE *Pajaronian* comes forward early with this word of sound counsel to prune growers: "The time is fast approaching when our friends the prune growers, so anxious to test the law of gravitation, will rush at their trees, and, with neither sense nor reason, shake fifty cents from them, while, had they one to two weeks more patience, one dollar would drop of its own accord. If not literally so, the point is at least worth considering. All—almost all—will agree with me, and yet hardly one will practice it. It is an accepted axiom in prune culture that the fruit must be fully ripe before it is cured. Shake the trees, however gently, and you cannot prevent the unripe prunes from falling. The sheet arrangements, or any other device for encouraging this "shaking" is a curse to the industry. It is suicidal, this scrambling haste to get the prunes dried in the cheapest way, and the first to market. French treatises have been translated and published from time to time, urging upon this as the most essential part in the business—to let the prune hang on the tree until it is fully ripe, when it will drop naturally."

SAYS the Healdsburg *Enterprise*: "There are too many free peaches for the clings produced, and the orchardist, when he sells his crop, wants to sell it all. Canners are in the market for all the cling peaches they can get at good prices. They say they can not get anywhere's near the quantity they will use in this locality. To every ton of clings produced here, there are four tons of frees, and so, since the canner's trade calls for four tons of clings to one of frees, he must look outside for his pack in this line. Taking a cue from our observations this week, we believe the orchardist had best prepare to dry his Crawford peaches. * * * In pears the difficulty lies with quality. The crop is fairly good, but not of the best grade. Last year we had only a few Bartletts, but they were fine and brought good prices. Undoubtedly the greater portion of this fruit will be put in tin, although the grower will have to be satisfied with a low price or dry. * * Canners are not going to speculate this season. Times are too hard and money too scarce. They will pack up to or perhaps a little beyond their present orders, but not in any large way. Money is more valuable than canned goods these days."

SAYS the Vacaville *Reporter*: "The experience of the Dixon ranchers turns out as usual. With some the growing of the sugar beet was a success; with others it was more or less of a failure. Some did not plow deep enough; others did not give the care and attention to the young plants which was demanded. It appears, however, from the result of the experiment, that the Dixon soil and climate are suitable for the favorable growth of the sugar beet. That is the main thing. The best method of growing the crop is a matter of detail. It will doubtless be found that much of the failure is from the indisposition of men accustomed to growing grain on a large acreage, to bother with so petty a thing as a sugar beet. It took years for some of the fruit growers of this locality to get accustomed to the attention to detail required by the operation of an orchard or vineyard. The ranchers of Dixon will accustom themselves to a change and it will pay them. But the transition from grain growing to planting sugar beets is decided and marked, and it will take time to accustom themselves to it. It is the crop of the future for Dixon, however, and despite any obstacles the people of that section should go ahead on the lines of their necessity and interest, grow beets and secure a factory."

Weather and Crops.

Synopsis of the Report of State Weather Bureau for Week Ending July 27th.

Sacramento Valley Counties.

TEHAMA COUNTY (Red Bluff).—The grain harvest is about over. Fruit has suffered somewhat from the extreme heat, and in some places prunes dropped badly. On the whole, the fruit crop will not average more than half a crop. (Corning)—The hot weather and grasshoppers have discouraged a few young orchards. The wheat and barley crops are turning out well.

BUTTE COUNTY (Pentz).—Weather still very oppressive. Highest and lowest temperatures, 102° and 62°.

GLENN COUNTY.—Highest temperature, 88°.

COLUSA COUNTY (Colusa).—Fruit crop will be large. The wheat crop will not be as heavy as was expected. (Arbuckle) Grain output will be large. (Grimes)—Fruit crop will scarcely pay for the picking.

SUTTER COUNTY (Yuba City).—The yield of wheat in this county is only a fair one.

PLACER COUNTY.—The second crop of figs and grapes is a good one. Potatoes are rotting in the ground, and when they are dug in good condition they do not keep. (Newcastle)—Highest and lowest temperatures, 95° and 54°, with .04 of an inch of rain.

YOLO COUNTY (Davisville).—The heated term seems to be over.

SOLANO COUNTY (Vacaville).—The fruit and vegetables on the hill ranches are all gathered and shipped, except grapes, which will make a very short crop this year.

Napa, Sonoma and Santa Clara Valleys.

NAPA COUNTY (Napa).—Highest and lowest temperatures, 98° and 54°. The hot spell has done no damage to fruit.

SONOMA COUNTY (Peachland).—The crop of early peaches is very light and quality is only fair. Highest and lowest temperatures, 78° and 57°, with .07 of an inch of rain.

SANTA CLARA COUNTY.—There never has been better weather for fruit drying than the present season, but the crop is small. The apricot crop is heavier than at first thought it would be. In some parts of the valley the prunes are dropping to a large extent. Highest and lowest temperatures at Santa Clara, 78° and 58°. (Campbell)—The crop of prunes, peaches and apricots is turning out to be a good average, and some orchardists report an extra large crop. (Los Gatos)—The windy weather has blown off some fruit from the trees. Pears and prunes are doing well and the crop will be a good one. Grapes will be a good crop.

SAN BENITO COUNTY (Hollister).—The crop of wheat and barley is a good one, and the hay crop is an unusually large one. There will be a large crop of Bartlett pears. Highest and lowest temperatures, 76° and 50°. The flax crop is a good one.

San Joaquin Valley.

SAN JOAQUIN COUNTY (Lodi).—Wheat is spotted, turning out all the way from four to fourteen sacks to the acre. Corn, melons and pumpkins are all doing well. Highest and lowest temperatures, 96° and 58°.

STANISLAUS COUNTY.—Rainfall here was .35 of an inch, while two miles from town there was 1.50 inches, which will be liable to injure dry feed and straw. Highest and lowest temperatures, 100° and 65°.

FRESNO COUNTY (Huron).—During the week ending July 18th the temperature ranged from 90° to 120°. The grain which was harvested on the west side has been of good quality and well filled. (Fresno)—Highest and lowest temperatures, 107° and 64°, with .06 of an inch of rain. (Easton)—Highest and lowest temperatures, 107° and 75, with a trace of rain.

TULARE COUNTY (Poplar).—The thermometer ranged from 110° to 117° Harvesting about completed and crops are ranging from two to three sacks per acre of good grain. (Visalia)—The dried fruit was slightly damaged by the few light showers which fell on the 22nd. (Tulare)—Upon the heaviest loaded prune trees the fruit is sunburning to some extent. (Goshen)—The thunder shower of the 24th produced a rainfall of hail half an inch, which spoilt some hay. The grain yield is good.

KERN COUNTY (Bakersfield).—A heavy shower of rain fell on the morning of the 22nd.

Southern California.

VENTURA COUNTY.—The past week has been very unfavorable for the bean crop and the chances are that the crop will be a light one. Highest and lowest temperatures, 80° and 55°. (Ventura)—There was .20 of an inch of rain on the night of the 21st. No such rain has fallen here before since July, 1872. Out in the valley it was like heavy fog. It did the bean crop great good.

LOS ANGELES COUNTY (Burbank).—Crops are looking fine. Apricots and early peaches are about all gone. Apples and pears are looking well.

SAN BERNARDINO COUNTY (Chino).—Next week the beet harvest will begin. The entire crop here and at Anaheim will aggregate 80,000 tons. The Anaheim crop will be a very light one.

SAN DIEGO COUNTY (El Cajon).—Crops are doing well and raisin grapes are beginning to ripen. The peach crop is a short one.

Coast Counties.

HUMBOLDT COUNTY.—Fruit crop light, but of good quality.

SANTA CRUZ COUNTY (Pajaro).—Beans will make about the poorest crop of any in this valley for this season.

MONTEREY COUNTY (Salinas).—The hot weather has hastened the ripening of the sugar beets in this valley and will slightly lessen the tonnage, but the crop is a big one and will go to the factory earlier than usual.

Points for California Fruit Shippers.

(New York *Tribune*, 26th inst.)

American apples, in season, are always in good demand in the English market, but they must be choice and of bright color, the British preferences being for red apples. Our apples are superior to those grown in transatlantic countries, and therefore not seriously affected by competition with the foreign product. Pears, peaches, plums, grapes, oranges, etc., come into direct competition with the prolific crops of Europe, which are so near the English market that they can always be delivered in sound condition.

Bartlett pears, if large, choice and sound, can usually be sold for profitable prices in England. In order, as far as possible, to assure their arrival in good order, they must be picked and forwarded while they are green; but even then there is no certainty that they will be in marketable condition when landed. Peaches and plums are so perishable that the risk of deterioration while in transit is much greater than with pears.

The English orange market is almost wholly supplied from convenient Mediterranean ports, but there is some demand for large American oranges, especially in autumn, when the Mediterranean crop is exhausted. Two years ago, before the Florida orange crop and most of the orange trees in that State were destroyed by severe storms and frosts, we sent to England between 6000 and 7000 boxes of extra large and choice Floridas, which were sold at satisfactory prices. We are not exporting any California fruit this summer, but we shall probably ship some winter pears when they come along, and also some California navel oranges, as no navels are grown in Europe, and they are a novelty abroad.

Whether or not the shipping of California fruit to England will ever be done with uniform success is yet an unsolved problem. Certainly it can't be done unless we send the choicest fruit and can count on it being landed in good marketable condition. The English people will take no trash. They want only the best fruit. Americans have the same ideas. Poor fruit can be sold here only at a great sacrifice, while for choice fruit there is always an active demand right here in the United States. We often receive here in this city at the height of the season as many as 100 carloads of California fruit in a single week. The enormous product of the Pacific slope is increasing so rapidly, however, that an outlet must be found for it abroad, and for the man who can devise some reliable means for its speedy and safe transportation to transatlantic ports there awaits not only fame and fortune, but the everlasting gratitude of the fruit growers of the Golden State.

Ferrets for Squirrels.

TO THE EDITOR:—With reference to your paragraph on the squirrel question, may I be permitted to ask through your columns if any of your readers have tried ferrets as a cure?

These animals are much used in England for bolting rabbits, rats, etc., from their holes, and I think would be very effective in ridding our orchards from the pest.

I have tried to get them from several animal dealers in San Francisco, but have not been able to do so, though one dealer told me he would be able to supply them soon at $10 per pair.

For the benefit of your readers who do not know how to use them I may say that the modus operandi is as follows: Put your ferret in at one hole, and at all other outlets for same hole have a man with a sack held over it tightly, so that when the squirrel bolts he will run into the sack. The ferret, I feel confident, would bolt a squirrel as easily as it would a rabbit or a rat, and in a very short time every squirrel on the place would be captured.

If effective, it would not only be doing much good, but would furnish capital sport. H. G. RONTING.

Auburn.

Ferrets have been talked about for this service in years gone by, and if we are not mistaken have also been tried. Why they are not used we are not quite sure, but we apprehend that the trouble is that it would take more man's work to kill squirrels with ferrets than by any other means, except perhaps by shooting. In day's work it would often cost more than the land would be worth to ferret the squirrels out of it. Squirrels' burrows do not usually have several exits. The burrow runs to a pocket-like nest, and that is the end of it. The squirrels must, therefore, come out by the way the ferret goes in. One man could, therefore, operate with a ferret and a club if he could trust himself not to get nervous and club the life out of a $5 ferret instead of a squirrel. But if no such mistake were made, it would still take too much time to handle the squirrel problem that way. Any method which involves personal attention to each individual squirrel is too expensive; if it were not so, trapping would do. Scattering poisoned wheat or injecting bisulphide of carbon, which kills at one dose every living thing in the burrow and pocket, come as near being cheap as any method of squirrel treatment that has thus far been suggested. The reason why squirrels are not reduced is because people cannot find time or money to apply even the cheapest treatment to the vast unoccupied areas, which are breeding grounds. Ordinances, bounties, threats and promises have not yet satisfactorily settled the great unreached squirrel of the neglected areas.

HORTICULTURE.

Approved Small Fruits.

TO THE EDITOR:—I send you herewith descriptive notes of two small fruits of much interest.

The Dollar Strawberry.—This is the most beautiful and best shipping strawberry that we grow. It is not so great a yielder as the Mexican strawberry, but where choice fruit is wanted, to ship any distance, we believe that the Dollar strawberry will be the best to grow. The fruit of the Dollar strawberry is quite large, oblong in shape, and of a clear, shining red color, dotted with golden seeds. It is a tall-growing plant, with large dark-green leaves, blossom perfect. A strange peculiarity of this plant is that the young plants yield a crop of fruit before they are rooted. The Dollar strawberry readily sells for a larger price than all other varieties, on account of its beautiful appearance.

We grow about 300 varieties of strawberries, and have a good chance to observe which is the best, and for beauty and a first-class shipper the Dollar stands at the head. For large berries and a great and enormous yield of fruit the Mexican is far ahead of anything; but the fruit is soft and it is a poor shipper. It is a splendid berry for home use, however, and sells well in all home markets.

The Strawberry-Raspberry.—This is as yet a comparatively new fruit. It attains a height of from 3 to 5 feet. With us it dies down every winter, but throws up a luxuriant growth early in the spring. The young plants when only 4 inches high commence fruiting and continue until Christmas, or until the heavy frosts set in. The fruit is as large as a good-sized Lawton or Kittitany blackberry, of a lustrous, shining red color, and looks like a large strawberry; it possesses a strange, delightful flavor, and it can be used for every purpose that the strawberry is put to. Ripening, as it does, from July until Christmas, it is destined to be a great market berry; it is more showy and beautiful than any strawberry, and will surely bring a big price in the market. It is a natural peculiarity of the plant to die down every winter; all the fruit is produced on wood of one spring and summer's growth; one plant will yield a tremendous lot of fruit. These plants are propagated by suckers, and after a person has one plant it is not long before they have 100. The strawberry-raspberry will flourish anywhere that the raspberry will grow. S. L. WATKINS.

Gizzly Flats, Cal.

[We are aware that the Dollar strawberry has very good points and it has been grown in the foothills in a small way for some years. The strawberry-raspberry we know nothing of beyond Mr. Watkins' description.—ED.]

The Crater Blight of Pear.

TO THE EDITOR:—Allow me to reply to Prof. Hedrick's remarks in regard to the crater blight of pear, which appeared in the issue of the RURAL PRESS of July 25th. He believes the disease to be identical with what he calls apple canker, and deplores the creation of a new name.

I am not certain that I know the disease he calls canker and which he describes as being produced by a fungus. The disease I have described as crater blight, however, is not a fungus disease at all, but appears to be a true blight allied to the "real pear blight." It even attacks the foliage as well as the stem, but differs from the Eastern pear blight in many particulars, especially in its very slow rate of progress and most strikingly by the breaking of the bark, forming a sharp line of demarkation between the diseased spot and the healthy portions of the stem, and, when the spot is small, making the crater-like pit which suggested the name.

We have made some progress in the study of the disease, in that we are very uniformly able to obtain pure cultures of a peculiar bacillus. Innoculation experiments have so far given only negative results. The disease occurs on many varieties of pears and on a few apples. There are a number of diseases known to me occurring on apples and agreeing more or less with Prof. Hedrick's description of the apple canker, but none that I know can be mistaken for the crater blight. Indeed, the crater-like appearance of this blight on the apple is very pronounced on account of the small size of the spots.

The crater blight certainly occurs in Oregon. I have had very typical examples from there and obtained the usual bacterial cultures from it, and that it is widespread I have no reason to doubt. Economically the crater blight in most localities is unimportant, but in some places this year it has done an immense amount of injury.

C. W. WOODWORTH.

University of California, Berkeley, July 27th.

Top Souring.

TO THE EDITOR:—In the article given on sour sap I note it reads, "To their remedy for sap souring," while it should read, "To their remedy for 'top souring.'" It is understood no roots will, for a length of time, stand a sour, stagnant soil.

Dove, San Luis Obispo Co. T. C. ASMUS.

This note refers to Mr. Asmus' interesting letter to the RURAL of July 11th, in which he advocates late peach seedling as stock for the French prune instead of myrobolan, because by later starting it escapes some troubles occasioned by too early activity.

Beeswax and Honey.

According to the "Yearbook of the United States Department of Agriculture for 1895," for the year ending June 30, 1895, there were 90,875 pounds of beeswax exported, and there were imported during the years ending June 30, 1891, to 1895, the following amounts of beeswax: 1891, 379,135 pounds; 1892, 271,068; 1893, 238,000; 1894, 318,660; 1895, 288,001. There were exported during the year ending June 30, 1895, $118,873 worth of honey, and there were imported during the years ending June 30, 1891 to 1895, the following amounts of honey: 1891, 47,740 gallons; 1892, 70,103; 1893, 176,147; 1894, 152,643; 1895, 67,444.

ARBORICULTURE.

American Nut Growing.

NUMBER IX.

Japanese Walnuts (*Juglans sieboldiana* Maxim.; *J. cordiformis* Maxim.; *J. mandshurica* Maxim.).—These nuts, the two former of which are natives of Japan and the latter of eastern Asia, have been planted for some years in California and other States with a good prospect of becoming useful, economic trees. They are certainly worthy of widespread trial where our native walnuts thrive. They are very closely allied botanically, and no distinct characters seem to have been noted except in regard to the form, size and smoothness of the nuts, the varying thickness of shell and the quantity and quality of the meat. Of the three the nut of *J. mandshurica* bears a close resemblance to our butternut, *J. cinerea*, while that of *J. sieboldiana* more resembles an elongated form of Persian walnut, and *J. cordiformis* a small, thin-shelled, heart-shaped form of the same species. Of the similarity of wood, foliage and manner of growth of the different species of Japanese walnuts, Luther Burbank says: "Among the many thousand seedlings which I have raised from *J. sieboldiana* and from the Tower House trees, I have watched in vain for the least variation in foliage or growth. Even *J. mandshurica* and all the various forms which are obtained from Japan and Korea are so much alike in foliage and growth that no one has been able to observe any difference in young trees."

While it seems probable that the tree now known as *J. cordiformis* will eventually be considered a botanical variety of *J. sieboldiana*, the differences in the nut characters seem of sufficient importance from a pomological standpoint to warrant their discussion here as three distinct species.

Juglans Sieboldiana.—This seems to have been the first of the Japanese walnuts introduced. The oldest tree now known to be growing in the United States has been grown from seed planted about 1860 by a Mr. Tower in Shasta county, Cal. The beauty of the tree and the desirability of the nut attracted attention; its identity was unknown until determined in 1881 by G. P. Rixford, to whom the matter was referred by the California Horticultural Society.

It is now widely distributed, being mentioned by correspondents in 1891 as grown in California, Florida, Michigan, New Jersey and Texas, though there was no record at that time of its having fruited outside of Shasta, Sonoma and Butte counties, Cal. The nut is ovate in form, with a sharpened point and smooth shell, which is thicker than that of the Persian walnut, but thinner than that of the American black walnut; the kernel has the flavor of the American butternut, but is less oily. Its quality is superior. The nuts are borne in clusters of twelve or fifteen each at the tips of the previous season's branches. The clusters of pistillate blossoms stand at an angle of 45° to the branchlets; and later, as the nutlets increase in size, the long, slender stem gradually curves until the cluster becomes pendant. The tree is described by Luther Burbank as follows: "This species is found growing wild in the mountains of northern Japan, and is, without doubt, as hardy as an oak. The leaves are of immense size and a charming shade of green. The trees grow with great vigor, assume a very handsome form, need no pruning, mature early, bear young and are more regular and productive than the English [Persian] walnut. The tree makes a more rapid growth than the shell-bark hickory, the pecan, the Eastern black walnut or the Persian walnut, but does not grow as fast as the native black walnut of northern California."

Concerning its propagation, Mr. Burbank states: "It is easily grafted on our common walnut (*J. Californica*), and its trunk retains the same dimensions as the stock; but it is by seed that it should be multiplied. It reproduces itself perfectly true, and if the younger plants remain bushy during the first year, the tree shoots afterwards, and, thanks to its rapid growth, promptly assumes large dimensions."

Juglans Cordiformis.—This nut, which is said to be indigenous to the island of Yezo, the most northern portion of the Japanese Empire, was but recently introduced. It has not fruited in California, but is reported as making a satisfactory growth in Sonoma county.

Mrs. H. H. Berger says, probably concerning its behavior in Japan: "Its Japanese name, Hemi-Kurumi, is derived from its distinctly heart-shaped, sharp-pointed fruit. The tree, which is of fine appearance, bears at four years from the seed and is said to attain a great age. As a dessert nut, its fruit equals the Persian walnut in flavor, and the peculiar heart-shaped form of its kernels, which can be extracted whole by boiling the nuts for about five minutes and cracking while still hot, gives it a peculiar value for table use. The meat is very sweet and is much used in the form of candied nuts. The species is of easy culture, and accommodates itself to any soil where the English walnut will grow."

Mr. Burbank says: "I am thoroughly convinced that some of the best varieties of *J. cordiformis* will prove to be of inestimable value. The meat, which is large and of best quality, is removed entire with but a slight tap, as the shell is very smooth and thin. In form and size the nuts vary as much or more than the shag-bark hickory, and no doubt can be much improved by selection and cultivation; and as they can probably be grown wherever any walnut can be, they should be disseminated as soon as possible. The young trees grow rapidly and are not distinguishable in the nursery rows from *J. sieboldiana*."

Juglans mandshurica.—This species, from eastern Asia, as previously noted, bears a close resemblance to our butternut in habit of growth and foliage and in the form and appearance of its nuts. Trees grown from seed received from Pekin, China, some years ago and planted at Arnold Arboretum are hardy there and have borne fruit for several years. For pomological purposes this seems to be the least promising of the three kinds, owing to the rough, thick shell of its nut.

HYBRID WALNUTS.

The use of both the California walnut (*Juglans Californica*) and the Eastern black walnut (*Juglans nigra*) as occasional trees in the Persian walnut orchards of California, for the purpose of supplying pollen to fertilize the blossoms and insure crops, has led to considerable inquiry as to the possible or probable results to be obtained by crossing one species of *Juglans* with another.

The Vilmorin walnut, supposed to have originated near Paris early in the present century, gives evidence of being a hybrid between *Juglans regia* and *Juglans nigra*. Felix Gillet, who grew the specimen from which the illustration was prepared, says of it: "I keep it simply as a curiosity. The nut has the shape of a European walnut, but the hard and rugged shell of the Eastern black walnut. I do not see any direct benefit derived from the crossing of the two species, for it certainly does not improve the European walnut and improves the black walnut but very little. I have several grafted trees of the Vilmorin in bearing. Of these, two trees produced several nuts last year that matured, though the trees produced no male catkins, the nuts having [probably] been fertilized by the catkins of Chaberte trees close by. The pistillate bloom on the tips of the nutlets of the Vilmorin is pink colored, while that of other walnuts is white. My trees were covered with those nutlets this spring [1891]. Though there were no catkins nor staminate flowers on those trees, I expect that many of the nuts will have been fertilized from the catkins of one or more varieties of *regia* that grow in the neighborhood and which were in bloom at the same time. The foliage of the Vilmorin is of a much lighter green than that of any variety of *J. regia*, and the edges of the leaves have small teeth, but not so closely set as those of the Eastern black walnuts."

In 1877 Luther Burbank crossed *Juglans regia* on pistillate flowers of *Juglans Californica*. The resultant nuts were planted in 1878, and in ten years the tree from one made the remarkable growth of twelve inches diameter at two feet from the ground. It was then accidentally destroyed. Buds that had previously been secured and set on other stocks show the same luxuriant growth of wood and foliage. Trees of these, four years from bud, transplanted to a hard sidewalk, were in 1891 said to be as large as, and taller than, eighteen-year-old *regias* on cultivated ground near by. They are as large as *Californica* trees ten years of age; the leaves have a very strong delightful fragrance of new apples, unlike any other tree. The bark is light colored, thin and very smooth. Specimen leaves nearly a yard in length and a photograph of the budded tree, sent to the Division of Pomology in 1892, indicate that the tree is a shapely, symmetrical grower that furnishes abundant shade. Mr. Burbank says: "No other tree that I have seen, except eucalyptus, will equal this in growth." He has some crosses of *J. nigra* and *J. Californica*, of which one is six years old and exceedingly handsome.

A New Book on Nut Growing.

The late A. S. Fuller, the well known Eastern horticulturist, before his death finished a book entitled the "Nut Culturist," which will be interesting to many Californians. The author of this book has for many years made a careful study of the entire subject and has given in this volume the results of his experiences and investigations. In successive chapters he treats upon the almond, beechnut, castanopsis, chestnut, filbert, hickory and walnut, giving a condensed account of their history, description of all the species and varieties, together with their propagation by seed or otherwise; modes of grafting and budding, transplanting, pruning, gathering and marketing; insect and fungus enemies and the best means of preventing their ravages; and all the important details in regard to the methods and practices for the successful and profitable raising of nuts. The closing chapter is devoted to the description of the fruits which are known in commerce as nuts, and to foreign kinds of nuts which are not grown successfully in the United States. Over 100 original illustrations embellish the volume, and an excellent portrait of the author is presented in the frontispiece. This will no doubt be highly acceptable to the legion of friends and admirers of Mr. A. S. Fuller, as it is the first portrait of him that has ever been published. It forms an appropriate accompaniment to this work, which its author has always considered as the most valuable one he has ever written, believing that it will develop a new and important industry for the benefit of American farmers and the prosperity of our country. We will send copies of the "Nut Culturist" for $1.50 each, postpaid.

FLORIST AND GARDENER.

California Privet as a Hedge Plant.

It is gratifying to find a California plant winning so many encomiums abroad as is our privet. It is popular in Europe as well as at the East. There was recently a paper read by A. V. Clubs of Pensacola before the Florida State Horticultural Society, in which he gives an outline of his practical experience with ornamental hedge plants, and speaks especially of the *Ligustrum Californica*, described by Henderson as "a species of recent introduction," as a shrub remarkable for the beauty of its foliage. The leaf is considerably larger than that of the common privet, of very dark, waxy green on the upper surface, and the under surface pea green. The plant is of rapid growth. Singly upon the lawn it is of great beauty, while its adaptation for a hedge is perfect. There are so many plants that are a success in the North, and prove failures in the South, that it gives Mr. Clubs real pleasure in saying that eighteen years' cultivation of this plant more than justifies the above description by Henderson.

How to Grow a Hedge.—Commencing with a single plant, from its cuttings I soon had plants by the thousand and beautiful hedges by the hundred yards. Grown singly and slightly trimmed annually to any desired form, it has abundance of white bloom in early spring, which is beautiful and fragrant and a choice food for the honey bee in its season. Closely trimmed, in a solid hedge, it rarely shows any bloom, but always presents a beautiful appearance with its evergreen foliage. On rare occasions the foliage is injured by exceptional frosts. The plant itself is never hurt by frost or insects, nor is it subject to dying out in spots, like some otherwise valuable hedge plants.

In preparing to plant a hedge with this plant the soil should be well broken up with the plow, and a liberal quantity of well-rotted stable manure thoroughly worked into the soil. Cuttings of the last season's growth, 12 inches long, may be planted in double rows, 1 foot apart each way. The cuttings should be of medium thickness, planted about 8 inches in the ground, and planted before the spring growth commences. It would be well to plant some spare cuttings, that may be rooted at the same time, to take the place of any that should fail to grow. It is best to trim very closely for the first two years to cause the plants to branch near the ground. The plant being strictly ornamental, with no thorns, it must be protected from cattle, horses and goats. When grown singly it should be thoroughly fertilized when planted, and annually trimmed to any shape or form desired. This trimming should be done when growth is checked by dry weather, about midsummer, so as not to destroy the bloom buds, which will mature later in the fall for spring blooming. To keep up a thrifty growth some surface application of fertilizer should be applied as needed, from year to year, and with reasonable care we may be sure of satisfactory results in all sections of Florida, and the South generally.

The Farmer's Garden.

We find an address recently delivered at a Farmer's Institute in the State of Washington, by E. G. Grindrod which is very suggestive in the line of farmers' gardens. The difference of climate between California and our northern coast region makes it necessary to read Mr. Grindrod's advice as to times of doing things with some reservations but his ways will be helpful to many.

Location.—The spot for the farm garden should be selected from the very best soil on the ranch, within a reasonable distance from the kitchen door if such soil can be found there. A southeastern slope is desirable for earliness, but this is not so important as convenience to the house, but wherever located the chickens must be kept out by other means than shooing or chasing by the dog. An acre, if potatoes are grown elsewhere, is about the right size for an average family garden, and it should be oblong in shape, say 10x16 rods. The longer way should be with the slope of the land for convenience in irrigating where practiced, as of course the rows must be the longest way.

It is not supposed that everyone shall be able to find an ideal location, but he should use common sense and combine as many of the desirable qualities

as possible. The location decided upon, it should, if possible, be plowed in the late fall, the later the better, as this destroys many troublesome insects and mice and exposes the soil better to the ameliorating influence of the snows and freezing and thawing of the winter. After plowing it should be covered with well-rotted manure or compost at the rate of forty large loads to the acre. In spring, just as soon as the ground is dry enough to work well, the manure should be thoroughly incorporated with the disc harrow, followed by the dray harrow. It is now ready for plowing, which should be done the long way, just as needed for planting. I do not like to sow garden seed except upon freshly plowed ground. This is more important in dry regions than where rains are likely to occur before germination. [In California an early fall plowing, the earlier the better, should be substituted for the above advice for the North. The double working and covering of fertilizers should also be done early in the winter, for much planting can then be done. The chief mistake in California farm gardens is in beginning too late and not securing an early beginning and a long growing season. Of course tender vegetables must usually be sown later.—Ed.]

The plowing should be immediately followed by the harrow and clod masher alternately, repeated several times until the soil is just as fine and smooth as in mother's garden, where the work was all done by hand. In fact, I think I prepare my garden soil a great deal better now than I ever did in my boyhood days, and with less than a tenth of the labor. I find that horse power is much cheaper and more efficient than man power, wherever in can be made available, and especially is this true in preparing garden soil for the reception of the seed.

Tools.—I do not know that it is advisable, or at all desirable, that every farmer own a full kit of implements and tools as the market gardener's business requires, but there a few tools which will be found indispensable in every farm garden. Every farmer is supposed to have plows, harrows, roller, clod-masher and a horse-cultivator, which are also necessary garden tools. In addition to these, a garden line, rakes, flat hoes, pointed hoes, garden trowels, a seed drill, and wheel hoe, are absolutely indispensable for the thorough and satisfactory cultivation of the garden, and none but thorough cultivation can be satisfactory. With the ground thus thoroughly prepared as above described, and seed sown in long, straight rows, if not exceedingly weedy, the cultivation, by the timely and continuous use of the wheel hoe, will be found to be but a light and pleasant pastime.

Culture.—As soon as the plants are up large enough so the rows can be easily seen and followed, cultivation should be at once commenced and the operation repeated at least once or twice a week during the season, or until the plants are too large to be hoed without injury. In garden culture the old adage: "A stitch in time saves nine," is especially applicable. But few weeds should be allowed to see the light.

Keep the soil stirred so frequently and thorough that the weeds never get a chance to put their heads through the surface, and you will serve the double purpose of keeping the weeds in subjection and also furnishing a fine earth mulch, which not only keeps the soil in splendid mechanical condition, but also prevents the evaporation of the moisture.

Garden Plant.—The arrangement might be something on this plan: Commence at one side with a row each of currants (both white and red), gooseberries, blackberries and raspberries. The rows of these should be 8 feet apart. Then follow with asparagus, rhubarb, strawberries and tomatoes, which should have the rows 4 feet apart. Should a whole row of any one thing not be required, plant so much as needed and complete the rows with something else, but the rows should be continuous through the whole length for convenience in cultivation with the horse cultivator. Everything, the rows of which are over 24 inches apart, can be cultivated much more economically with horse labor than by hand. All of these, including corn, beans, peas, cabbage, cauliflower, etc., should always be planted in rows, running clear through the garden.

The other vegetables, such as onions, turnips, spinach, lettuce, radishes, carrots, beets, parsnips, etc., should be sown in rows 12 to 16 inches apart and cultivated with the wheel hoe and, of course, with these it is not necessary to extend the rows of each through the entire length of the garden, but it might be more convenient to arrange them in plots, having several rows of each variety together.

Transplanting Maiden-Hair Ferns.

T. R. Hopkins, a Seattle florist, gives the *Northwest Horticulturist* some hints for those who wish to bring native ferns from their summer outings for growth in their homes. He notes that replanting ferns has proved so disappointing as a general thing that he does not wonder that many are deterred from attempting it on account of the lack of success of those that have tried it on previous seasons. Still, it is possible for the average person to succeed.

Take up only plants that are growing in the most exposed places, with such roots as it is practicable to obtain. Cut off the fronds so as to leave only a few for the plant to support until it gets new roots. Pack damp moss or earth around the roots, and keep damp until the opportunity comes to place in pots or permanent quarters.

The potting soil should be rough pieces of sod, charcoal, old plaster (if easily obtained), or cinders that have been exposed to the rain for some time. This should be all broken up in pieces the size of a walnut and smaller.

It is not of so much importance to have just these things, but get some rough soil; ferns delight in a coarse, fibrous soil. Try and obtain it, then place a few of the largest pieces in the bottom of the pot for drainage and put the fern in place. Fill the pot up around the roots to within an inch of the top of the pot. Place in the shade until they are established. There will be but little growth that season. The object is to secure a well-rooted plant for the ensuing spring, and such will be obtained by the course outlined. When the fall comes the fronds will die down, then cover up the pots with a mulch of leaves and let them alone until early spring time; again take them up, examine the dead plants, bring into any moist room, such as the kitchen, and by keeping well watered your plants should in eight weeks be in splendid condition. Don't throw away your plants in the fall because they look dead. They are getting in condition to reward your patience in the spring with a splendid growth. There are indeed few of the cultivated ferns that are more worthy of care than our native maiden hair.

THE POULTRY YARD.

Rational Feeding of Poultry.

An address by Prof. M. E. Jaffa of the State University at a meeting of the Poultry Keepers' Association at Petaluma.

(*Continued from last issue.*)

Having now our standards, let us try and make up some rations with the aid of the accompanying table, showing the analyses of the different foods. We will first make a brief study of the table, so as to be familiar with the foods named therein.

ANALYSES OF SOME FOOD PRODUCTS.

Foods.	Percentage Composition.					Fuel Value 1 lb. Calories.
	Water.	Flesh Formers.	Heat Producers. Fat.	Heat Producers. Carbo-hydrates.	Ash.	
Green Fodders.						
1. Corn Fodder	79.30	1.80	.50	17.20	1.20	146
2. Barley	80.00	1.78	.62	16.18	1.42	212
3. Alfalfa	80.00	3.93	.79	13.84	1.44	222
4. Red Clover	70.80	4.40	1.10	21.60	2.10	374
5. Cabbage	91.50	2.10	.30	4.90	1.20	140
6. Spinach	92.40	2.10	.50	3.10	1.90	120
7. Lettuce	95.10	1.10	.30	2.70	.80	85
8. Carrots	88.60	1.10	.40	8.90	1.00	170
9. Potatoes	78.90	2.10	.10	17.90	1.00	325
10. Beets	90.00	1.30	.10	7.70	.90	170
11. Skim Milk	90.50	3.40	.30	5.10	.70	170
12. Fresh Meat	69.49	20.53	9.03	.....	.95	763
Dry Fodders.						
13. Barley Grain	10.90	12.40	1.80	72.50	2.40	1425
14. Maize	10.60	10.30	5.00	72.60	1.50	1467
15. Egyptian Corn	12.38	9.23	5.16	71.60	1.63	1430
16. Wheat	11.35	11.31	2.08	73.52	1.74	1406
17. Wheat Middlings	11.82	16.39	4.58	63.64	3.57	1246
18. Wheat Shorts	10.95	13.47	3.32	69.53	5.61	1128
19. Wheat Bran	12.42	13.44	3.74	64.93	5.61	1151
20. Peas	10.80	24.10	1.10	61.50	2.50	1640
21. Beans	13.20	22.30	1.80	59.10	3.60	1590
22. Linseed Oilcake	12.36	28.89	5.33	49.02	4.40	1674
23. Cocoanut Oilcake	14.68	19.16	10.53	51.36	4.27	1290
24. Cottonseed Oilcake	9.85	47.25	12.21	25.83	4.86	1514

Two Classes of Foods.—We notice that they are naturally divided into two main classes: (1) Foods having a high percentage of water and, therefore, low contents of water-free substances—these are generally termed "green fodders." (2) This class comprises those which are rich in water-free material, and hence contain but little water; they appear to be dry at the ordinary temperatures and only lose the water which they hold when exposed to higher temperatures.

These two main classes can be subdivided into nitrogenous or those which contain considerable flesh-forming material compared with the fat formers and heat producers, and starchy or carbonaceous foods whose composition includes, in the water-free portion, a high percentage of carbohydrates and a low percentage, comparatively, of flesh formers. As examples of the former we have corn, barley, wheat, etc., and of the latter class peas, beans, oil cake meals and fresh meat. The richest food as regards protein is cottonseed meal, with 47 per cent of this ingredient. Fresh meat and peas and beans contain about the same percentages, but the animal food has the advantage, in that its protein is more completely digested than that of the vegetable products.

A Fattening Ration.—Let us now return to the question of rations. For an example, suppose we have 1000 pounds of laying hens of 6 pounds average weight; that would mean about 166 hens. According to our standard we require about 50 pounds total food, which for our experiment shall be made up from wheat, barley, shorts, middlings, corn, cabbage, corn fodder and skim milk in the proportions given below.

Pounds of	Dry Matter.	Flesh Form's.	Fat.	Carbo-hydrates.	Ash.
	lbs.	lbs.	lbs.	lbs.	lbs.
10 Wheat	8.86	1.31	.21	7.35	.17
5 Barley	4.91	.62	.09	3.62	.12
10 Middlings	8.82	1.64	.46	6.36	.35
10 Shorts	8.91	1.35	.33	6.95	.27
10 Corn Fodder	2.07	.18	.05	1.72	.12
10 Cabbage	.85	.21	.03	.50	.12
5 Skim Milk	.85	.17	.02	.26	.03
60 Total	35.27	5.48	1.19	26.76	1.18

This ration fulfills the requirements of total weight and water-free matter, but is deficient in protein and fat and is excessive in its content of carbohydrates. The continued use of such a ration would tend to fatten the fowl, a condition the poultryman does not desire for a laying hen. Fattening tends to make the birds lazy, and a lazy hen is not as a rule a laying one.

A Balanced Ration for Laying Hens.—To remedy the above ration we omit the shorts and substitute fresh meat, which is rich in protein and contains practically no carbohydrates, and cottonseed meal, another nitrogenous food. The modified ration will then be—

Pounds of	Dry Matter.	Flesh Form's.	Fat.	Carbo-hydrates.	Ash.
	lbs.	lbs.	lbs.	lbs.	lbs.
10 Wheat	8.86	1.31	.21	7.35	.17
5 Barley, Grain	4.45	.62	.09	3.62	.12
10 Middlings	8.82	1.64	.46	6.36	.35
2 Cottonseed Meal	1.80	.94	.24	.50	.09
10 Corn Fodder	2.07	18	.05	1.72	.12
5 Cabbage	.42	.11	.07	.25	.03
5 Skim Milk	.85	.17	.02	.26	.03
12 Fresh Meat	3.60	2.40	1.09	....	10
59 Total	30.87	7.37	2.23	20.06	1.01

The ration as it now stands is a fairly good one. The amounts of the nutrients are all higher than that called for by our standard; but then it must be remembered that the figures there given are for digestible matter, while the table shows only the amounts of the crude nutrients.

Making the necessary allowances for digestibility, we will have about the right quantities of the different nutrients requisite for a balanced ration. The ration previously quoted would be termed an unbalanced ration—that is, one in which the nutrients do not exist in the proper proportions.

If the flesh formers are in excess, the ration is nitrogenous; when the fat and heat producers are present in too great a quantity, the ration is carbonaceous.

Mineral Matter for the Hen.—We have said that the ration just given contains the proper amounts of organic nutrients. Let us now examine it with reference to the mineral matter which it contains. We find that in the 59 pounds of food there is only 1 pound of mineral matter, which, even if this mineral matter were to consist entirely of carbonate of lime, would be insufficient for the number of eggs which the hens consuming this amount of food would lay. It has been shown by the analysis of the egg that more than 10 per cent of the entire egg consists of carbonate of lime. Now, estimating that the hens would produce 12 to 15 pounds of eggs per day when fed on the ration in question, there would be required from 1.2 to 1.5 pound of carbonate of lime, which amount could not, in accordance with what has just been said, be obtained from the food.

Wastes of the Hen.—It might be mentioned at this point that the mineral matter of the food eaten is not entirely assimilated by the body. And the composition of the hen manure, given below, proves that this is likewise true of all the nutrients.

COMPOSITION OF HEN MANURE.

Water	56.00
Organic Matter	25.50
Nitrogen	1.60
Phosphoric Acid	1.75
Potash	.85
Lime	2.25
Magnesia	.75
Insoluble Residue, etc	11.30
Total	100.00

The unassimilated fat and carbohydrates are included in the "organic matter," and the undigested protein is represented by the "nitrogen."

The Lime Supply.—One of the best materials that a poultryman can use for supplying the requisite lime is oyster shells, or any other variety of shells. An experiment in this direction was made at the New York Experiment Station and the result was such that the use of oyster shells during the laying season, where they can be cheaply obtained, was strongly recommended. It was found there that one pound of oyster shells contained sufficient lime for the shells of about seven dozen eggs.

Shells are not the only source for the lime necessary for egg shells. Bones also contain a large percentage of lime, as is seen from the following analysis of clean, dry bones of oxen and sheep:

Carbonate of Lime	6 to 7 per cent.
Phosphate of Lime	58 to 63 per cent.
Phosphate of Magnesia	1 to 2 per cent.
Fluoride of Calcium	2 per cent.
Organic Matter	25 to 30 per cent.

Fresh green bones also contain, besides the lime compounds, some protein or flesh formers, which

adds to their value as a poultry food. The best way to render the bones available is to have them broken by means of the bone cutter. One pound of the green bones is generally considered sufficient for sixteen hens. Besides the cut bones or oyster shells, the hens must have a generous supply of some kind of grit—very coarse sand or broken crockery.

This grit serves as teeth for the hens and when they are unable to obtain it, indigestion and other ailments are sure to follow.

The foregoing remarks about oyster shells, bones, etc., while having been made with reference to the heavier hens, apply equally to the lighter ones. The main ration, however, in the latter case must be somewhat changed.

Another Ration.—For 1000 pounds live weight of small hens, a good ration, made up from the foods named in Table II, would consist of—

	Total Weight.	Dry Matter.	Flesh Form's.	Fat.	Carbo-hydrates.	Ash
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Egyptian Corn.....	10	8.76	.92	.51	7.16	.16
Middlings.....	5	4.41	.82	.23	3.18	.17
Wheat.....	10	8.86	1.13	.20	7.35	.17
Bran.....	10	8.75	1.34	.37	6.49	.56
Green Barley.....	20	2 00	.34	.01	3.22	.28
Cottonseed Meal..	5	4.50	2.36	.61	1.29	.24
Fresh Meat.....	15	10.50	3.05	.95	....	.14
Total...	70	47.78	9.96	2.88	28.69	1.72

An examination of the two rations given proves that in order to have the proper proportions of the different ingredients, or to balance the ration, we must have a variety of foods at our command.

It would be almost impossible to make a balanced ration solely from the grain feedstuffs. If the necessary amount of flesh formers is obtained by the use of grain, then the fat and heat producers in the ration will be greatly in excess; on the other hand, if the carbohydrates or fattening ingredients are made the standard, then, when the proper proportion of this part of the food is supplied by the grain, the flesh formers will be lacking to a considerable extent.

We have to depend on the peas, beans, different oil-cake meals and fresh meat or meat meal for the main sources of the flesh formers.

By fresh meat is meant *lean* meat with the minimum amount of fat. Buyers should be careful in regard to this point, as a large per cent of fat would be worse than useless for the purpose of the feeder.

It will be noticed that corn fodder and green barley are the only green foods used in making up the rations quoted. But in regions where alfalfa or clover can be successfully and economically grown they would be much more suitable for supplying this part of the ration, as they are considerably richer in flesh formers.

The examples given are merely illustrations of the method employed in the making up of rations and can be varied according to the materials at the command of the feeder.

The great necessity of water for the hen is shown by the high content of this element in the body and also in the egg. In one dozen eggs there is almost one pint of water. About four gallons of good clean water are required per day for 100 hens. The more "green" food the fowls have the less will be the quantity of water needed.

When the hens are not laying they only require a subsistence diet, which is not as rich a one as that for hens during the laying period, either in flesh-formers or fat-formers and heat-producers; neither is there any necessity for the oyster shells or substitutes.

Foods for Growing Fowls.—The amount of food required for growing chicks and pullets is larger than that for full-grown fowls. According to Prof. Wheeler of New York, the quantities of water-free food requisite for every 100 pounds live weight fed is: 10.6 pounds at about one pound average weight; at two pounds, 7.5 pounds; at three pounds, 6.4 pounds; at four pounds, 5.5 pounds; at five pounds, 5.3 pounds; at six pounds, 4.9 pounds; at seven pounds, 4.7 pounds; at eight pounds, 4 pounds; at nine pounds, 3.3 pounds; at ten pounds average weight, 3.2 pounds.

The amount of green or fresh food equivalent to the above different weights would be correspondingly increased. Prof. Wheeler further states that these are the amounts taken by the growing fowls, which normally attain to the higher weights given, and which are still immature and growing rapidly when at five and six pounds average weight.

The nutritive ratio of the ration, or the ratio between the flesh formers and fat and heat producers, will vary according to the maturity of the hen and the period of feeding. The nutritive ratio in the case of growing chicks should be narrower, that is, there should be in the ration a larger proportion of flesh formers than when the hen is mature or when she is being fattened for the market. For the latter purpose the flesh formers would be small compared to the fat and heat producers and the ration would be wide or carbonaceous.

Nitrogenous and Carbonaceous Rations Compared.—Investigations in this line were made at the Cornell Station by Mr. J. E. Rice. Two lots of hens and chicks were selected. Lot No. 1 were fed on a nitrogenous ration consisting of one-third wheat bran, one-third wheat shorts and one-third cottonseed meal. This mixture was fed in connection with skim milk in the proportion of one of the mixture to two of skim milk. Lot 2 had a carbonaceous ration made up of cracked maize and maize dough. Both lots had a small amount of green clover as long as it lasted and then cabbage. The duration of the experiment was 125 days. The conclusions were: So far as it is warrantable to draw any from a single experiment of this kind, it would seem that:

Chickens fed on an exclusive corn diet will not make a satisfactory development, *particularly* of *feathers.*

The bones of chickens fed upon a nitrogenous ration are *50* per cent stronger than those fed upon a carbonaceous ration.

Hens fed on a nitrogenous ration lay many *more* eggs but of smaller and of poorer quality than those fed on corn.

Hens fed on corn, while not suffering in general become sluggish, deposit large masses of fat on the internal organs and lay but *few* eggs, though of large size and of excellent quality.

The flesh of the nitrogenous-fed fowls contains more albuminoids and less fat than those fed on a carbonaceous ration, and is darker colored, juicier and more tender.

Animal Versus Vegetable Foods.—At the Hatch Experiment Station an experiment was made with a view of ascertaining which was the better for egg production, animal or vegetable foods. The results were decisive against the vegetable food and in favor of the animal, in so far as effect upon egg production is concerned. The fowls receiving animal food were, moreover, in much better condition at the close of this experiment than the others.

Meat Meal Versus Cut Fresh Bone.—Another experiment was undertaken at the same station comparing dried animal, or meat meal, with cut fresh bone. A variety of foods supplied, artificial grit and oyster shells, were given *ad lib.*

The results are undecisive and the experiment will be repeated, but the indications are that meat meal is a *safer* feed than the bone. It is also a much cheaper one, and if it will give practically as many eggs, it is to be preferred.

THE APIARY.

Different Honey Bees Contrasted.

No doubt many of our beekeeping readers will be interested in reading an up-to-date discussion of the distinguishing characters and qualities of the several species of honey bees which are grown in this country. We find such an account in the Government pamphlet by Frank Benton, which was published in such small numbers that but few beekeepers can get a copy of it. For this reason Mr. Benton's writing, as the latest in the line, will be welcomed.

Varieties of the Common Hive or Honey Bee.—Besides the common brown or German bee imported from Europe to this country some time in the Seventeenth century and now widely spread from the Atlantic to the Pacific, several other races have been brought here—the Italian in 1860, and later the Egyptian, the Cyprian, the Syrian, the Palestine, the Carniolan and the Tunisian. Of these the brown or German, the Italian, and, in a few apiaries, the Carniolan bees are probably the only races existing pure in the United States, the others having become more or less hybridized with the brown race or among themselves or their cultivation having been discontinued. It should also be remarked that so few have kept their Carniolans pure, that purchasers who wish this race should use caution in their selection or else import their own breeding queens. There are many breeders of Italians from whom good stock can be obtained. Eyptian bees were tried some thirty years ago, but only to a very limited extent, and, as has been the case with Syrians and Palestines imported in 1880, and whose test was more prolonged and general, they were condemned as inferior in temper and wintering qualities to the races of bees already here, it not being thought that these points of inferiority were sufficiently balanced by their greater prolificness and their greater energy in honey collecting.

The Tunisians, for similar reasons, and also because they are great collectors of propolis, never became popular, although a persistent attempt was made a few years since to create sale for them under the new name of "Punic bees," the undesirable qualities of the race having previously been made known, under the original name, by the author, who had tested them carefully for several years—a part of the time in Tunis.

Cyprians.—Bees of the race native to the island of Cyprus have produced the largest yield of honey on record from a single colony in this country—1000 pounds in one season. Everyone who has fairly tested them admits their wonderful honey-gathering powers and their persevering courage in their labors even when the flowers are secreting honey but scantily. They winter well and defend their hives against robber bees and other enemies with greater energy than any other known race. When storing honey Cyprians fill the cells quite full before sealing, and thus the capping rests against the honey, presenting a semi-transparent or "watery" appearance, which is undesirable. They are extremely sensitive, hence easily angered by rough or bungling manipulators, and, when once thoroughly aroused, are very energetic in the use of their stings. These faults have caused a very general rejection of Cyprians, especially by those who produce comb honey. Even the producers of extracted honey do not seem to have learned how to manipulate Cyprians easily and without the use of much smoke, nor how much more rapidly they could free their extracting combs from Cyprian bees than from Italians. Nor have they seemed to count as of much importance the fact that Cyprians, unlike Italians and German or common bees, do not volunteer an attack when undisturbed; that they will, in fact, let one pass and repass their hives quite unmolested and even under such circumstances as would call forth a vigorous and very disagreeable protest from the other races just mentioned. It is to be regretted that there has been such a widespread rejection of a race having such important and well-established excellent qualities. It would be easier by selection in breeding to reduce the faults of this race than to bring any other cultivated race to their equal in the other desirable points.

Cyprians are smaller-bodied and more slender than bees of European races. The abdomen is also more pointed and shows, when the bees are purely bred, three light orange bands on the three segments nearest the thorax. The under side of the abdomen is even lighter orange colored nearly or quite to the tip. The postcutellum—the small lunule-like prominence on the thorax between the bases of the wings—is likewise orange colored, instead of dull, as in European races. The rest of the thorax is covered with a russet-brown pubescence. Cyprians are the yellowest of the original races, and their bright colors and symmetrical forms render them attractive objects.

Italians.—Through the agency of the United States Department of Agriculture, bees of this race were introduced direct from Italy in 1860. There had previously been repeated individual efforts to secure Italians bred in Germany, where the race had been introduced some years earlier, and a small number of queens had been landed here alive in the autumn of 1859, but most of these died the following winter, and the few remaining alive seem not to have multiplied as rapidly as those obtained in Italy by a purchasing agent of the Department of Agriculture and landed here early in 1860. Their good qualities were soon appreciated, and they had become well established and widely spread long before the Cyprians, imported twenty years later. For this reason, together with the fact that they cap their surplus combs whiter than some other races and because less skill is required in subduing and handling Italians, they have retained their popularity over bees which, though better honey gatherers, are more nervous under manipulation. Their golden-yellow color has also proved so attractive to many that the good qualities of more somber-hued races—gentler, better winterers and better comb builders—have not received due consideration. Italians, are however, certainly preferable to the common brown or black bees, for they show greater energy in gathering honey and in the defense of their hives against moth larvæ and robber bees, while at the same time they are gentler under manipulation than the blacks, though they do not winter as well in severe climates.

Italian workers are nearly Carniolans in size, and show across the abdomen when the latter is distended with honey not less than three yellow bands, which approach more or less a reddish or dark leathery color. By selection in some instances, and in others by the introduction of Cyprian blood, Italians and Italian hybrids have recently been bred which show four or five yellow bands or which are even yellow to the tip of the abdomen. They are certainly pleasing to the eye, and in case due heed has been given to the vigor and working qualities of the stock selected when establishing the strain, no valid objection can be brought against them, except the tendency they have to revert to the original type of Italians. This is due to the comparatively short time they have been bred, and with each season's selection will of course grow less.

Carniolans.—These, the gray bees from the elevated Alpine province of Carniola, Austria, are the gentlest of all races, and as, besides their other good qualities, they winter the best of any, it is not surprising to see that they have steadily grown in favor. Their sealed combs are exceedingly white, as they do not fill the cells so full that the honey touches the capping, and they gather little propolis, qualities highly appreciated by the producer of comb honey. They are quite prolific, and, if kept in small hives, such as have been popularized of late in the United States, are somewhat more inclined to swarm than the other races introduced here. This tendency becomes more pronounced when they are taken into a country whose summers are hot, like ours, and their hives are not well shaded, as they have been bred for

centuries, with only slight introduction of outside blood, in a climate where the summers are short and cool. Moreover, the practice in Carniola is to place the long, shallow hives used almost exclusively there in beehouses and side by side, one above the other, with intervening air spaces, so that at most only the front ends are exposed to the sun. This management long continued has doubtless tended to develop and fix more or less permanently in this race certain characteristics which should be taken into account in their management elsewhere. With these precautions, they do well in all parts of the United States.

The Carniolan worker is readily recognized by its large form, less pointed abdomen, and general ashy gray coat, the abdominal segments especially presenting a ringed appearance on account of silvery white hairs which cover the posterior half of each of these segments. By crossing Carniolans with Italians or with Cyprians a yellow type with silvery rings is produced, and by continued selection in breeding the gentle disposition of the Carniolans can be secured with the greater honey-gathering powers of Cyprians, should these be employed in forming the new strain.

German, Common Black, or Brown Bees.—These bees are found commonly throughout our country from ocean to ocean, both wild and domesticated. Exactly when they were introduced from Europe is not known, but considerable evidence exists which shows that there were no hive bees (*Apis mellifica*) in this country for some time after the first colonies were established; also, it was not until near the close of the last century that they reached the Mississippi and less than half a century has passed since the first were successfully landed on the Pacific coast.

Many beekeepers, having more attractively colored and frequently better bees, are inclined to consider this race as possessing hardly any redeeming qualities, or at least to underrate these because accompanied by undesirable traits. While it is true that they have some serious faults, the latter are not so great as those of some other races. They have become thoroughly acclimated since their first importation, over two centuries ago, and besides possessing good wintering and comb-building qualities, they will, when the flow of honey is quite abundant, generally equal Italians in gathering. But the disposition which bees of this race have of flying toward one who approaches the apiary and stinging him, even though the hives have not been molested, their way of running excitedly over the combs and dropping in bunches when they are handled, besides stinging the backs of the operator's hands, unless the whole colony has first been thoroughly subdued and the bees induced to gorge themselves with honey, or are constantly deluged with smoke, are very annoying to the novice who undertakes to perform necessary manipulations with them, and may even so discourage and daunt him as to cause the neglect of work of great importance to the welfare of the colony. The easy discouragement of bees of this race when a sudden check in the flow of honey occurs is also a peculiarity which does not commend them. These things, tending to reduce profits, often dampen the beginner's enthusiasm before he has acquired the knowledge and skill necessary to make the work genuinely successful. He had, therefore, better choose Italians or Carniolans, and use as breeders only queens that are known to have mated purely.

The common race shows considerable variation in its markings and qualities. The workers have a dull, rusty brown color, especially about the thorax. Some strains are, however, much darker than others and in general the drones are darker than the workers. In size workers, drones and queens of this race are intermediate between the other European races and those from the Orient. The same care and skill applied in the selection of breeding stock would result in as great improvement in this as in any of the more attractive yellow races.

Value of Bees to Apricot Growers.

Dr. E. Gallup of Santa Ana writes to the *Bee Journal* a strong plea for bees in the orchard. This season has been a very peculiar one for California. Our apricots usually bear full crops every other year, and this should have been the bearing year; but owing to the unusually cool, dry weather while they were in bloom, the crop is extremely light in many places, and in some localities almost a failure. Now this could have been remedied. How? Why, by having bees to fertilize the bloom.

This article is suggested by the complaint of a friend. He had a large colony of bees take possession of the roof of his tank-house some time in April, and now he is in a sweat as to how to get rid of them, as he says they are a terrible nuisance on the apricots while drying, etc. That they do work on apricots while drying, especially over-ripe ones, is a fact which I am not going to deny. Now this friend has a very light crop of apricots, and is very anxious to make the most of them, and I want to whisper in his ear a trifle:

Friend S., providing you had four or six colonies of bees to fertilize your apricots while in bloom, you would have had a heavy crop; and knowing that the bees were the cause of the heavy crop, could you have begrudged them the small quantity of juice they would have taken while they were drying? You discover the bees on the drying trays, and do you not imagine that they are doing a great sight more harm than they really are? You are a pretty close observer in most cases; please look into this matter thoroughly.

Now for facts: At the time the trees were in bloom, it was so cool that bees could fly but a short distance from their hives, and only a few hours in the day. I notice some twenty trees on First street literally loaded with nice fruit, while a short distance from them the trees are almost bare of fruit. There is a cause for this, and *what* is that cause? Why, there are two large colonies of bees in the cornice of a house adjoining the lots where those trees are.

I met a friend three days ago; he was making preparations for apricot drying. "Well, how is your crop?" I asked. "I never had a heavier crop, or a finer one; and as my neighbors have only very light crops, and some of them almost none at all, I expect to get a good price for mine."

So you see this friend was in extra good spirits. Why does he have such a fine crop? There must be a cause, and *what is it?* Why, a widow has some eight colonies of bees in box-hives just across the street, only a few rods from friend H.'s apricot trees. Now, in all probability, this same man will find fault with the widow's bees for taking a trifle of the juice while his fruit is drying! Let the bees have a trifle for their labor! The laborer is worth of his hire; muzzle not the ox that treadeth out the corn.

The Eastern Honey Crop.

Messrs. R. A. Burnett & Co., of Chicago, had this to say about the present honey crop:

"The prospects are that the largest flow of honey ever secured east of the Rocky mountains to the Atlantic coast will be obtained this season. Some of the harvest is now on the market, setting in a small way at the prices given in our market quotations."

The *American Bee Journal* says this is the judgment of the oldest and most extensive honey dealer in Chicago—a man who, though very quiet, keeps in touch with the honey producers all over the country. In view of the above Eastern producers are urged to exercise great care not to flood any one market with honey, and thus break down prices. Neither should they neglect nearby markets and ship to a distance. The home demand should be carefully met first. The Eastern producers will have much less trouble from California competition this year.

Father Langstroth's Twelve Axioms.

Perfect familiarity with the following "first principles" of bee-keeping, as laid down by the veteran apiarist, the late L. L. Langstroth, will save beginners many a worry, and prevent some of the commoner mistakes:

1. Bees gorged with honey never volunteer an attack. Thus, bees that come back loaded from the field, or bees that have gorged themselves for swarming, are not dangerous.

2. The bees that are to be feared are those that have joined a swarm without fully gorging themselves. In the hive, the guardians and the old bees that are ready to depart for the field are the most dangerous.

3. During a good honey harvest the bees are nearly all filled with honey, and there is but little danger from stinging.

4. Those races of bees that cannot be compelled, by smoke, to fill themselves with honey are the most dangerous to handle.

5. Bees dislike any quick movements about their hives, especially any motion that jars their combs.

6. The beekeeper will ordinarily derive all his profits from colonies, strong and healthy in early spring.

7. In districts where forage is abundant only for a short period, the largest yield of honey will be secured by a very moderate increase of colonies.

8. A moderate increase of colonies in any one season will, in the long run, prove to be the easiest, safest and cheapest mode of managing bees.

9. Queenless colonies, unless supplied with a queen, will inevitably dwindle away or be destroyed by the bee moth or by robber bees.

10. It must be obvious to every intelligent beekeeper that the perfect control of the combs of the hive is the soul of a system of practical management, which may be modified to suit the wants of all who cultivate bees.

11. A man who knows "all about bees" and does not believe that anything more can be gained by reading bee journals, new bee books, etc., will soon be far beyond the age. Yet, as what is written in the journals and books, ours included, is not always perfectly correct, every beekeeper should try to sift the grain from the chaff.

12. The formation of new colonies should ordinarily be confined to the season when bees are accumulating honey; and if this or any other operation must be performed when forage is scarce, the greatest precautions should be used to prevent robbing.

The essence of all profitable beekeeping is contained in Œttl's golden rule: "Keep Your Colonies Strong."

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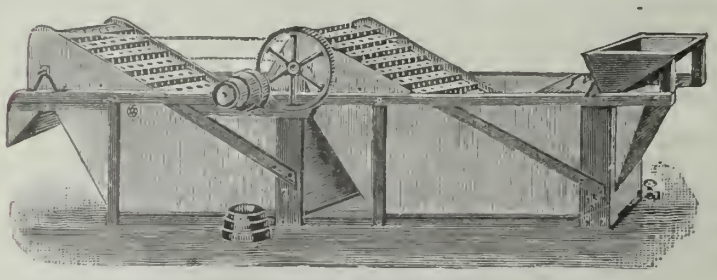

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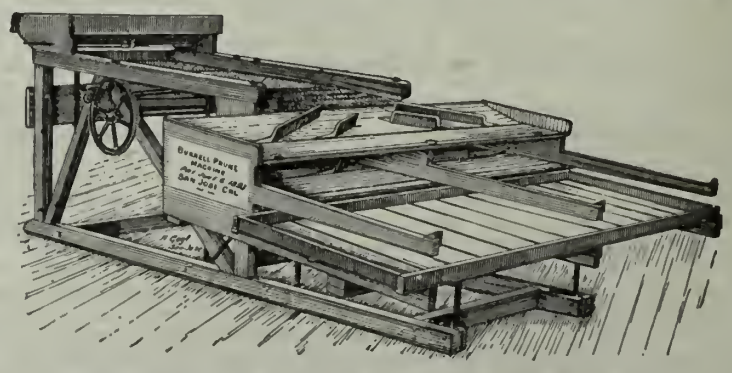

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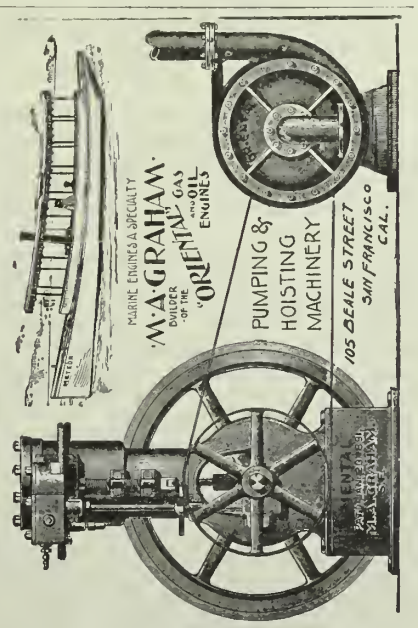

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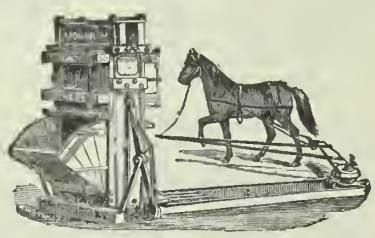

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Here and Now.

Here in the heart of this world,
  Here in the noise of the din;
Here where our spirits were hurled
  To battle with sorrow and sin—
This is the place and the spot
  For knowledge of infinite things;
This is the kingdom where Thought
  Can conquer the prowess of kings.

Wait for no heavenly life,
  Seek for no temple alone;
Here in the midst of the strife
  Know what the sages have known.
See what the Perfect One saw,
  God in the depths of each soul;
God as the Light and the Law,
  God as beginning and goal.

Earth is one chamber of heaven,
  Death is no grander than birth;
Joy in the life that is given,
  Strive for perfection on earth.
Here in the turmoil and roar,
  Show what it is to be calm;
Show how the spirit can soar,
  And bring back its healing and balm.

Stand not aloof or apart,
  Plunge in the thick of the fight;
There in the street and the mart,
  That is the place to do right.
Not in some cloister or cave,
  Not in some kingdom above;
Here on this side of the grave,
  Here should we labor and love.

—Ella Wheeler Wilcox.

Some Day of Days.

Some day, some day of days, treading the street
  With idle, heedless pace,
  Unlooking for such grace,
  I shall behold your face.
Some day, some day of days, thus may we meet.

Perchance the sun may shine from skies of May,
  Or winter's icy chill
  Touch lightly vale and hill;
  What matter! I shall thrill
Through every vein with summer on that day.

Once more life's perfect youth will all come back,
  And for a moment there
  I shall stand fresh and fair,
  And drop the garment care;
Once more my perfect youth shall nothing lack.

I shut my eyes now, think how 'twill be,
  How, face to face, each soul
  Will slip its long control,
  Forget the dismal dole
Of dreary fate's dark separating sea.

And glance to glance, and hand to hand in greeting,
  The past with all its fears,
  In silence and its tears,
  Its lonely, yearning years,
Shall vanish in the moment of that meeting.

—Elizabeth Stuart Phelps.

Rosine's Romance.

When Miss Magnolia carefully withdrew the dress from the great cedar trunk, unpinned the old damask tablecloth which enveloped it, and spread out its shining folds for the admiration of her niece, Rosine, that young lady clasped her hands and quoted Keats:

"'A thing of beauty is a joy forever,'" she said.

Miss Magnolia nodded and smiled. She was small and round and brown as a maiden lady of a decidedly certain age could be. But her heart, which had been full of sentiment once, was a warm and sensitive organ still. And she took a deal of interest in Rosine's romance.

"Yes, my dear, it is a thing of beauty. And to think I never wore it but twice! Dear, dear!"

"You had a lover then, auntie?" asked Rosine.

"Yes, pet. This was one of the dresses I got for my marriage. But he went away on—business, he said—and never came back. It is just the gown for your fancy-dress ball," hurried on Miss Magnolia. "A trifle short, of course, but there is quite a piece turned in at the top that you could let down. You shall go as a lady of long ago."

"Not so very long ago," protested Rosine, with a laugh. "But really, auntie, I don't like to take it; it is too lovely."

"Not for a raiment of war? Remember, you are going to conquer the dragon!"

"That is so. And the master should have written, 'Thrice is she armed who wears a pretty dress.'"

The foe against whom Miss Rosine Wilde purposed arraying herself was the obdurate uncle of her handsome lover. He had promply and perversely opposed the marriage of his nephew. The young fellow would have ignored the refusal of his relative were it not that the old gentleman had always been very kind to him; had, indeed, taken the place of his dead father. So he had decided that Rosine should meet his uncle, and put his prejudice to rout.

"He is coming to visit an old friend of his," Cyril has said—"Judge Chartreau. You know the Chartreau family. Of course, you have heard they are going to give a fancy-dress ball next month in honor of the coming of their daughter Lisette. You will receive a card. You will attend. You will meet Uncle Albert, and you will take his heart by storm!"

Hopefully he had planned his scheme; enthusiastically had he explained it. But Rosine protested. It was to be a grand ball, and she had nothing to wear. Besides, she did not like the idea of plotting to make a person like her. And—

"Bless you!" cried Cyril, "he doesn't dislike you. I don't believe he even knows your name. His resentment is general, not particular. As soon as I told him I was in love with a southern girl, he—he (I have to drop into slang, Rosine)—he sat square down on me. It seems a southern girl jilted him when he was young, and he is bound to save me from a like awful fate. But when he once sees you he is bound to capitulate. He is a regular old brick—Uncle Albert!"

"But I have nothing to wear. And what is more, I cannot buy a dress for the Chartreau ball. We—Aunt Magnolia and I—are as poor as the proverbial church mice."

But just then Miss Magnolia came to Rosine's relief, like a regular little fairy god-mother.

"The very thing!" she cried—"my primrose satin."

Rosine regarded her dubiously, delightedly. She knew her aunt had always guarded jealously her trunk of treasures, her jewels, her laces, her rich, stiff, glistening old brocades.

"Do you mean it, auntie?"

Miss Magnolia's bright old eyes winked very rapidly indeed.

"I do, my dear. I was young once myself."

And that was how Rosine Wilde came to be the belle of Mme. Chartreau's fancy-dress ball. The proposed festivity had been the talk of New Orleans for several weeks. The night long anticipated was cool, crisp, sweet and pearly. The broad-balconied old residence of St. Charles street was brilliantly lighted up. Many a carriage rolled up, rolled off. When Rosine descended from the barouche of her chaperon, she felt somewhat nervous, though conscious she was looking remarkably well—as, indeed, she was. Quite a picture was the pretty young figure in the clinging gown of pale yellowish satin, picturesquely puffed and quaintly fashioned. The corsage, cut roundly, revealed the firm, full throat. Dainty mouseskin swathed the arms, which, if slender, were also exquisitely rounded; and the small, olive-tinted face was lit to loveliness by pansy black eyes. A flash of adoration succeeded the serene nonchalance of Cyril Rodney's countenance as he caught sight of her. He made his way to her side.

"Queen Rosine!" he murmured. "You're by far the prettiest girl here to-night. Poor uncle Albert! How complete will be his surrender!"

She swept him a mocking courtesy.

"Ah!" she said, smilingly, "if that conviction were but mine—"

The sentence ended in a long, soft sigh.

"*Si te pas gagne*," he began. "Confound it, I never can get my tongue around your creoleisms! The saying is, however, that if there were no sighing in the world the world would stifle. Now prepare to face the music!"

And off he went. He soon returned. By his side was a sturdy old gentleman.

Rosine's heart beat more rapidly.

"The dragon!" she said.

Silvery hair had the dragon. A dark mustache had the dragon. A florid complexion had the dragon. And a manner that was grave, dignified, courteous.

"Uncle Albert," explained Cyril, with boyish eagerness, "this is Miss Rosine Wilde."

"Wilde!" The old gentleman started perceptibly. He looked at the blushing girl, at the yellowish gown. He bowed.

"And," avowed young Rodney, sending his sweetheart a swift smile of encouragement, "and—the young lady of whom I spoke to you."

"Oh!" exclaimed Albert Ellsworth. Then, interrogatively, "Wilde? Was your father's name Clayton Wilde?"

Rosine assented.

"And your mother's maiden name was Magnolia Kingsley?"

"Oh, daer no! Aunt Magnolia was never married. My mother's name was Madeline Kingsley."

"Eh!" cried the dragon.

The florid color had faded from his cheeks. He was tugging nervously at his dark mustache. He looked agitated and perplexed.

"My mother died ten years ago," said Rosine, "and since then I have lived with Aunt Magnolia."

Mr. Ellsworth regarded her grimly.

"Is that," he asked, abruptly, "your aunt's gown you have on?"

The soft rose fire in the girl's cheek deepened.

"How in the world did you know?" she counter-questioned.

A queer, wavering smile was his only reply.

A constrained silence ensued. Cyril gave his uncle an astonished glance.

"So Magnolia is an old maid?" said Mr. Ellsworth, abrubtly.

"If she is," cried Rosine, stung to defense by a remark she considered rude, "it is because she was true to an unworthy lover."

"Eh!" ejaculated Mr. Ellsworth, more sharply than before. And suddenly he turned and walked away.

The following day he insisted on accompanying his nephew to the gaunt, ramshackle, once aristocratic old house in the French quarter where Rosine lived. As they were passing the vaulted entrance to the little flagged courtyard, Albert Ellsworth caught sight of a familiar figure moving among the potted palms and boxes of blooms.

"Go on, lad!" he said to Cyril. He had paused, and was looking through the brief avenue of gloom to the brightness beyond.

Cyril was about to question this new vagary, when the thought of a peculiar possibility made him catch his breath and do as bidden. He knocked at the barred back door, and was admitted to Rosine's radiant presence. And meanwhile his uncle went into the courtyard. The little old lady standing by the bananatree looked up at the sound of the step on the stones.

"Magnolia!" he cried.

Miss Magnolia gazed at him in a dazed, half-frightened way. Did ghosts ever appear in the daytime? Stouter than he whom she had known, and with hair grown gray; but the same. Around her, in a fantastic dance, the broken fountain, the long leaved bananatree and the giant oleanders went whirling. The didn't faint, but she came nearer to it than she ever had come in her life.

"Did you think I had deserted you, Magnolia? When I left you to go North on business, I believed in you as I've never believed in any one since. And while away I heard and read that you had married that young Wilde I used be so jealous of. So I went to Europe, and I stayed there."

"But Clayton Wilds married Madeline. I always told you he came to see her."

"Yes, I know that—now. I was a fool to have been so easily convinced of your falsity. You haven't changed a bit. I knew you the moment I saw you."

Miss Magnolia smiled delightedly. She did not know he had expected to see her.

"I never forgot the dress you wore the last time I saw you," declared Mr. Ellsworth, waxing fervent. "I recognized it on your niece last night."

"Last night? Are you—surely you are not the dragon?"

"Wha-at?"

"The—the dragon!" faltered Miss Magnolia.

Mr. Ellsworth still looked blank.

"That," murmured the little lady, feeling she was in for it, and might as well make a clean breast, "was what Rosine and I called Cyril's uncle. And Rosine was going to conquer him."

He burst out laughing.

"Well, she did. The boy shall marry Madeline's pretty daughter. And you, Magnolia, you'll marry me!"

"Oh, dear, no; I'm too old!"

"Not a day."

"And ugly—now."

"Loveliest woman in the world to me," insisted the dragon, loyally.

"Bless you, my children," cried a voice from above.

The pair in the courtyard glanced up. On one of the inner balconies stood Rosine and Cyril.

"Vanish, you scamps!" roared the dragon.

"I sha'n't allow you to marry a southern girl, sir!" shouted back Cyril, as he and Rosine beat a brisk retreat.

Fashion Notes.

The craze for blue and white has extended to muslin gowns. The latest and most chic show blue figures in white grounds and are profusely trimmed with lace.

A novel use for lace is the making of full plaitings of straight-edged insertions, which are employed both as edgings for flounces and for foundation skirts.

A skirt perfectly plain and without godets is foretold as the favorite shape for all skirts for yachting, tennis and walking. A Parisian specimen is made with gored seams and a double box plaiting at the back, and does not measure more than four yards round at the hem.

The deep sash of ribbon is much worn by fashionable women. It is slightly pointed in front, and is fully a quarter of a yard high. It is, in fact, one of the recent borrowings from the Marie Antoinette period. Skilfully adjusted, it is pretty and becoming; but put on by one who doesn't know how, it is stiff and ugly to the last degree. It should have the look of easily swathing and suggesting the lines of the figure.

Dark blue flannel striped with a white line and white flannel with a blue line, are the fashionable materials for boating dresses.

Pique appears to be the one formidable rival to grass linen. Not only is it employed for the making of whole gowns, but it makes also revers, capes and collars for silk gowns, and is encircled by trimmings of real Irish crochet.

Pique and silk is a rather incongruous combination, but it is fashionable, and so we must look upon it with favor whether we like it or not. The pique is used for collars, revers and cape effects on silk gowns, and edged around with Irish lace.

Silk muslin embroidered with pearls and made over white silk is the latest

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thing for wedding gowns, and with sprays of orange blossoms here and there it is vastly more becoming to the average bride than the severe white satin.

Plumes are the latest hat trimmings, and the combination of white feathers and black velvet ribbon on a cream-colored tuscan straw is the most stylish one in all the varied array of summer hats.

Fancy waists show no sign of waning popularity; on the contrary, the variety increases and becomes more attractive, all the time. One model of flowered silk has double frills of lace over the shoulders and white chiffon draped to the front and tied in a large bow fastened with a gold buckle. Another buckle fastens the belt, which is of the silk, and passes through and under the fullness of the bodice in front. Another example carried out in flowered silk has a vest and close sleeves of puffed ivory mousseline de soie and Valenciennes insertion, and the wide frills of silk over the shoulder are edged with lace.

Gems.

No one is useless in this world who lightens the burden of it for any one else.—Charles Dickens.

What the Bible brings to you depends in a large measure on what you bring to it. You may have a crumb, or a loaf, or a granary full to bursting, just as you choose.—Dr. Behrends.

The riches of the world, and the gratifications they afford, are too apt, when their evil tendency is not opposed by a principle of religion, to beget that friendship for the world which is enmity to God.—Bishop Horseley.

Be sure of the foundation of your life. Know why you live as you do. Be ready to give a reason for it. Do not, in such a matter of life, build on opinion or custom or what you guess is true. Make it a matter of certainty and science.—Thomas Starr King.

There are some spirits which must go through a discipline analogous to that sustained by Elijah. The storm struggle must precede the still small voice. There are hearts which must be broken with disappointment before they can rise into hope. Blessed is the man who recognizes his Father's voice in the undertone of the tempest, and bares his head and bows his knee as Elijah did.—Robertson.

The formation of good habits early in life becomes the imperative duty of every person. The business man realizes its priceless value in business habits; the educationalist recognizes its essentials to good scholarship. Our proper life depends more upon common sense habits than anything else. In all departments of life and activity man is a creature of habit. The universe is timed to good habits. The law of habit makes all things easy. Habit makes good deeds easy and bad ones difficult.—Rev. Reuen Thomas.

Curious Facts.

Little oak trees, an inch and a half in height, are grown by Chinese gardeners. They take root in thimbles.

About 600,000 acres are annually planted by the Swedish school children, under the guidance of their teachers.

The population of the world averages 109 women to every 100 men. Eight-ninths of the sudden deaths are those of males.

The lowest order of animal life is found in the microscopic jelly fish. It is simply a minute drop of gelatinous matter.

Many birds have the trick of tumbling along on the ground in front of the sportsman in order to draw him away from their nests.

With both the alligator and the crocodile the tail is the most formidable weapon. One stroke may break the legs of the strongest man.

Although on land a clumsy animal, the seal is wonderfully quick in the water, and in a fair race can generally catch almost any fish.

Pleasantries.

"Did the kitty hurt you?" asked papa, seeing his little boy's puckered face. "Yes," answered Charlie, "that kittie has got teeth in her toes."—Youth's Companion.

She (on her first voyage): "What is that down there?" He: "That is the steerage." She: "And does it take all those people to make the boat go straight?"—Exchange.

"I really think, John," said Mrs. Severe, "that you smoke too much." "Well, my love," said John, "if you'd occasionally give me a chance to talk, I might let my cigar go out."—Harper's Bazar.

"Did you fall?" said a man, rushing to the rescue of a woman who had slipped on the pavement this morning. "Oh, no," she said; "I just sat down to see if I could find any four-leaf clovers."—Atchison Globe.

Parvenu Hostess (to stable boy attired as waiter for the occasion of a dinner party): "James, why do you not fill Mr. De Gluttonne's glass?" "Lor', ma'am, what's the use? He empties it as fast as I fill it."—Credit Lost.

A little child who had been told to sit in the room during the minister's call, found his long stay quite a tax upon her ability for quietness. When he had gone, she said to her mother: "I guess the minister forgot to bring his 'Amen' with him to-day."

Johnny Jameson had arrived at his eighth birthday, and thought that it would be real nice to write a letter to papa; and this is the way he began: "*My Dear Papa*—Whenever I am tempted to do wrong I think of you, and say, 'Get thee behind me, Satan!'"—Our Boys and Girls.

A well-known specialist of children's diseases warns mothers against the danger of wrapping and pinning the abdominal binder too tightly about the bodies of very young children. By so doing proper breathing is made impossible. Down the band slips, as it is very apt to do unless fastened to something else, it compresses the lungs instead of the abdomen.

Flossie is six years old. "Mamma," she asked, on Christmas day, when the guests had assembled, "if I get married, will I have to have a husband like pa?" "Yes," replied the mother, with an amused smile. "And if I don't get married, will I have to be an old maid, like Aunt Kate?" "Yes." "Mamma," (after a pause), "it's a tough world for us women, ain't it?"—Modes & Fabrics.

When Thiers was President of the French republic he was about to issue some important manifesto, and submitted the draft to a critical friend. "Yes," said the critic, "the matter is clearly expressed; but I miss the ease and fluency of your usual style." "Ah!" replied Thiers, "I have not worked those in yet. The ease will cost me much labor, and the fluency I shall have to drag in by the hair of its head."—Exchange.

Senator Berry of Arkansas tells his friends of a trial for assault in his State, in the course of which a club, a rail, an axe-handle, a knife and a shotgun were exhibited as "the instruments with which the deed was done." But it was also shown that the assaulted man defended himself with a revolver, a scythe, a pitchfork, a chisel, a handsaw and a dog. The jury, Mr. Berry says, came to the conclusion that they'd have given $1 apiece to have seen the fight.—Kansas City Journal.

In a jury trial in a small town not many miles from civilization, the rural gentlemen into whose hands the fate of the plaintiff was placed were so stubbornly divided that they were some twenty-odd hours in reaching a verdict. As they left the court after having rendered their verdict, one of them was asked by a friend what the trouble was. "Waal," he said, "six of 'em wanted to give the plaintiff $4000 and six of 'em wanted to give him $3000, so we split the difference an' gave him $500."—Central Law Journal.

DOMESTIC ECONOMY.

Domestic Pointers.

Cream horseradish is made by pressing the vinegar from the horseradish which comes in bottles, and adding to about six tablespoonfuls of the radish a little salt, the beaten yolk of an egg and half a cupful of whipped cream.

Many headaches are said to be caused by the very high collars worn, which are often not only high, but so tight that they weaken the throat and press at the base of the brain and repress the circulation of the blood. Heavy large hats are also believed by physicians to be the cause of many headaches.

The following simple method of keeping ice water in a common pitcher is worth knowing: Put a layer of cotton batting between two sheets of wrapping paper three inches higher than the pitcher. Fasten the ends of the paper and batting together, forming a circle. Paste a cover over one end of the batting and paper. This cover, when over a pitcher, must come close to the stand and so exclude the air, and ice will keep a long time. This paper cover will be found of great service in a sink room for both milk and water pitchers.

Habitually eating soft foods, even soft bread, to the exclusion of every thing that is hard or crusty, is not only weakening to the digestive organs, but it leads to rapid decay of the teeth. When these are not used in the mastication of harder foods, the teeth become covered with tartar and sometimes loosen in their sockets, or the gums will bleed. The use of hard bread and other substances requiring thorough mastication will do more to preserve the teeth than all other things put together. It will also tend to keep them clean, and by insuring good digestion, it will help to make the breath fresh and pure. Those who suffer from indigestion instinctively reject the softer, sloppy foods, as they are apt to make disturbance almost as soon as swallowed. They instinctively give preference to the harder or more solid foods — those that require thorough mastication and insalivation.

Kitchen Lore.

Snow Drops.—One cup of butter, two cups of sugar, whites of five eggs, one small cup of milk, three full cups of prepared flour. Bake in small, round tins.

Sandwiches—One pound chopped chicken, four ounces butter, salt and pepper, one teaspoonful of pounded mace, half a nutmeg and a slice of ham. Chop the chicken and the ham with the butter, and add the spices; pound to a paste. Spread on thin slices of bread.

Chocolate Icing.—Take one cup of water, the well-beaten white of one egg, a pinch of cream of tartar, and one ounce of unsweetened chocolate grated. Boil the sugar and water together until the syrup will string when poured from the end of a spoon. Stir the grated chocolate into the stiff white of egg, to which has been added the cream of tarter. Slowly pour the boiling syrup on the eggs, beating hard all the time. Beat until the mixture begins to cool and thicken, and then spread it between the layers of cake and on top.

Brown Bread Pudding.—Weigh six ounces of any pieces of stale brown bread you may have; break them into a bowl. Pour over them half a pint of boiling milk, cover the bowl with a plate and let it press it well to get it as dry as possible; beat it up well with a fork and take out any hard pieces there may be in it. Add to it two ounces of brown sugar, the grated rind of a lemon, two ounces of sultanas or raisins cut in halves, and a few drops of vanilla. Mix these well together. Now beat two eggs well and add them to the rest of the ingredients. Butter a mould, put in the mixture and steam for one and a half hours. Then turn out on to a hot dish, and serve with sweet melted butter or German sauce.

The . . Fashion

Russet Shoes are all the go. See our description and list of sizes at

HALF PRICE

And less in August Home Circle, first page of cover.

Little Folk's Russet, Canvas, 5 to 7½	42c
Little Folk's Best Russet, Kid, 5 to 7½	63c
Little Folk's, 2½ to 5½, No Heels	25c
Sizes 8 to 10½, Closing	55c, 73c
Misses', Canvas, 11 to 13½	68c
Misses' Best Russet, 11 to 13½	88c
Gent's Fine Style Russet	$1.39
Ladies' Canvas Shoes, Size 3	90c

All these are 1896 toe and as good as a shoe can be made at any price. Too good for the times until price was cut square in two. No need to ask

HOW OR WHERE

We got them. They are retailed at exactly half of the manufacturer's price in March last, and buyers get the benefit of somebody's loss. A bottle of the best russet polish, 25-cent quality,

FREE with 6 Pairs

By freight or express. Order at once, send cash, and we'll lay them aside till your freight order is ready.

Reductions also in Black Shoes:

Boy's Button Shoes, 5, 5½, 6	$1.15
Boy's Finest Shoes, Button, 5 to 6½	1.35
Men's Finest Button Shoes	1.37
"Our Brag" Shoe for Ladies	1.50

CUTS in the price of Underwear and Hosiery.

LADIES' WRAPPERS,

Dark, home-made, sizes 32 to 40, of good washable calico, at

85 Cents.

Come talk to us or write for particulars to

THE BIG DEPARTMENT STORE,

SMITHS CASH STORE,

414, 416, 418 Front St., S. F., Cal.

Some Pretty Waists.

The RURAL is enabled to furnish the following patterns to its readers at 10 cents apiece, postpaid. The patterns are handsomely put up in a separate envelope containing illustrations and descriptions and mailed for five two-cent stamps. Address Pattern Department, RURAL PRESS, 220 Market Street, San Francisco, giving number and size of pattern wanted.

A SAILOR FROCK.

973—Fauvette Dress.

Sizes for 10 and 12 years.

This is a simple and attractive model for every-day frocks of serge and flannel, as well as the heavier washable fabrics—cheviot, suitings and galateas. A fitted lining holds the slight fullness of the waist in place, but it can be omitted when desired. The gored skirt should be sewed to the waist with the fullness in the back held in gathers. The under revers should be of the gown stuff finished with a hem and rows of stitching. The chemisette and outer revers can be of white or light blue serge, mohair or batiste or colored chambery. The wool fabrics are trimmed with braid and the cotton and batiste with insertion.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

FOR ORGANDY AND MULL.

969—Berulce Waist.

Sizes for 14 and 15 Years.

This is a charmingly simple and becoming waist, which can be used to complete gowns of any light summer fabrics, or for a separate waist of batiste or silk. Effective combinations are: Dotted Swiss muslin, with yoke and deep cuffs of lace or embroidery; plain or striped batiste with all-over embroidered batiste, which is also effective for the yokes and lower parts of the sleeves of silk and challie waists. The model waist is of dotted Swiss muslin made over pale green taffeta, with lace like embroidery for the yoke and sleeves. The back of the waist is like the front, and a fitted lining holds the fullness in place. The belt may be of ribbon or jeweled passementerie, finished with a rosette. The neck is also finished with rosettes.

A special illustration and full directions about the pattern will be found on the envelope in which it is inclosed.

AN OUTING BLOUSE.

934—Pamela Shirt-Waist, with Detachable Collar and Cuffs.

Sizes for 34, 36, 38 and 40 Inches Bust Measure.

This convenient blouse is of silk-striped batiste, with separate collar and cuffs of laundered linen. The pattern has the favorite double-pointed yoke, which is quite a novelty. The box-plait may be finished plainly or edged with Valenciennes lace. The collar and cuffs are detachable, so that various changes may be made with the same waist, as these parts soil more quickly than the rest of the waist; besides, they may be bought ready made at the stores, thus rendering the making of the waist so easy. Wash silks, silk flannels, and a great variety of cottons, linens and batistes are made up in this fashion, because the garments are easily laundered.

A special illustration and full directions about the pattern will be found on the envelope in which it is inclosed.

THE
MOST SUCCESSFUL REMEDY
FOR MAN OR BEAST.
Certain in its effects and never blisters.
Read proofs below:

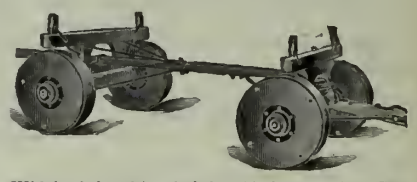
KENDALL'S SPAVIN CURE

SHELBY, MICH., Dec. 16, '93.
DR. B. J. KENDALL CO.
Sirs:—I have used your Kendall's Spavin Cure with good success for **curbs** on two horses and it is the best Liniment I have ever used.
Yours truly, AUGUST FREDRICK.

For Sale by all Druggists, or address
Dr. B. J. KENDALL COMPANY,
ENOSBURGH FALLS, VT.

WANTED!
5000 Green Gage Seedlings
For piece grafting; one bushel Green Gage seed
ALTA LOMA NURSERIES. Alta Loma, Texas.

William McKinley
Is the Republican standard bearer and the champion for protection. If he is elected we hope it be for the country's welfare. This, however, is a matter of conjecture; but it is a *dead sure thing* that if you buy your supplies through the Home Library and Supply Association you will save from 10 to 40 per cent. We furnish everything at deeply cut prices: but some of our specialties are Buggies, Bicycles, Barb Wire, Clothing, Furniture, Groceries, Musical Instruments, Shoes, Sewing Machines, Watches, etc.
Write for terms of membership and get our prices before buying elsewhere. Address
J. H. WOOD & CO., Managers,
14 Sansome St., San Francisco, Cal.

FARMERS' HANDY WAGON
AND FRUIT TRUCK.

Width of tire, 6 in.; height of bolster, 30 in. Carries any size platform or bed. Wheels turn under the load. Nothing equal to it for Farm, Orchard and Vineyard. Four sizes, one horse to six horses. Fully guaranteed. Write for Catalogue. Agents wanted. W. C. RARIG, General Agent, 157 New Montgomery Street, San Francisco, Cal.

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INVALUABLE TO HORSE OWNERS,
Because it is always reliable. It is a speedy, safe and positive cure for Colic, Curb, Splints, Bruises, Shoe Boils, Callous of all kinds, Contracted and Knotted Cords, etc. Used and highly recommended by prominent horsemen.
TUTTLE'S ELIXIR
Is a sure specific for lameness. It never produces any scar or blemishes. Warranted to satisfy.
Readville Trotting Park, Mass., March 23, 1893.
Dr. S. A Tuttle, V. S.:
Dear Sir—I have used your Elixir for the past ten years, in the diluted form, for a leg and body wash. I consider it the best wash for keeping horses from soring up. Horses done up with this wash are much less liable to take cold than when done up with witch hazel or any other wash I ever used. J. H. NAY.
Tuttle's Family Elixir cures Rheumatism, Sprains, Sore Throat, and all joint affections.
Sample of either Elixir sent free for 3 two-cent stamps to pay postage. 50 cents buys either Elixir of any druggist, or sent direct on receipt of price.
Dr. S. A. TUTTLE, 27 E. Beverly St., Boston, Mass.

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MAKERS OF
BARBED BALING COPPER INSULATED WIRE ROPE NAILS SPRINGS BALE TIES
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Headquarters for Plows.

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Steel Beam Gang
= Steel Single =
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PLOWS.
THE STOCKTON REVERSIBLE GANG PLOW.
H. C. SHAW PLOW WORKS, State Agents,
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HUNTLEY MANUFACTURING CO.
OUR SPECIALTIES:
MACHINERY FOR FLAX SEED CLEANING. BEAN AND PEA SEPARATORS. RAISIN AND FRUIT CLEANING AND GRADING MACHINERY. SPECIAL CLEANING MACHINERY FOR ALL PURPOSES.
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M. O'BRIEN, Agent, 509-513 Mission St. Write for Circulars. San Francisco, Cal.

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GOMBAULT'S
Caustic Balsam

A Safe Speedy and Positive Cure
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. *Impossible to produce scar or blemish.* Every bottle sold is warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.
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VALUABLE CUT PATTERNS FOR TEN CENTS TO THE READERS OF THE RURAL PRESS.
THE DEMOREST CUT PAPER PATTERNS.
Their Styles Are Universally Adopted by Well-Dressed Women Everywhere. The Ten Cents Only Pays for Handling, Mailing, Etc.
These Patterns Are Practically Free to Our Subscribers.

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Surveying, Architecture, Drawing and Assaying.
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Open All Year. : A. VAN DER NAILLEN, Pres't.
Assaying of Ores, $25; Bullion and Chlorination Assay, $25; Blowpipe Assay, $10. Full course of assaying, $50. Established 1864. Send for Circular.

FIRE ARMS, FISHING TACKLE,
BICYCLES, SPORTING GOODS,
At Wholesale Prices.
Send stamp for new Illustrated Catalogue. Home Supply Co., 13 Front St., San Francisco, Cal.

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Patent Centrifugal, Steam and Power Pumping Machinery, Simplest, Cheapest and Best. Orchard Trucks, Grape Crushers, Wine Presses, Wine Filters.
Up-to-Date Repair Shop for All Kinds of Pumps and Other Machinery.
It will pay you to get our prices.
I. L. BURTON MACHINE WORKS,
115-117 First St., San Francisco.

PUMPS!
For deep or shallow wells; power, windmill, hand Pumps; valves can be removed without taking pump out of the well. With my 5-in. double-acting deep well Power Pump I guarantee 10,000 gallons per hour. Send for circular. A. T. AMES, Galt, Cal.

Patrons of Husbandry.

From the State Lecturer.

Agriculturists are now in the very midst of the busy harvest time, and which catches the average Granger "right where he lives." Comparatively speaking, the number of harvest hands have vastly decreased since the fifties, through the operation of labor-saving machinery, and yet the power of the few very largely excells the power of the former in the harvest field.

Fifty years ago six men—two cradlers, two rakers and two binders—would cut, rake, bind and shock from six to eight acres a day, after which it had to be drawn together, threshed and cleaned ready for market. To-day, we look out on a machine in the hands of just six men traversing our fields, that cuts, threshes, cleans and recleans and sacks the grain from 60 to 75 acres and even more per day, ready for the market or for seed, and the crop yielding from 20 to 40 bushels per acre. A single two-horse team supplies wood and water; otherwise no animals are required, steam doing the rest. Horse machines are, however, still in the majority, thirty animals doing about one-third as much as the steamers. These things have about ceased to surprise us, and they are not written to interest the home reader, but to remind the wheat growers elsewhere of the wonderful capacity of the California farmer.

So much depending on the fruit and grain crop of our State, the Grange for a time must take a vacation, to enter the actual field, its meetings to be all the more welcome and interesting when prospective leisure shall bring widely separated members once more together.

The writer is in receipt of a further batch of No. 3 Bulletins from the National Lecturer, which will be distributed as may be ordered.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING JULY 7, '96.

563,652—POTATO CUTTER—O. A. Bulette, Seattle, Wash.
563,712—FILTER—T. A. Evans, Mt. Tabor, Or.
563,465—TRY-SQUARE—E. S. Farley, Pomona, Cal.
563,366—AIR-TIGHT PACKAGE—C. Fricke, S. F.
563,381—BOOK-LEAF HOLDER—N. A. Judd, S. F.
563,289—FARE REGISTER—C. L. Logan, Los Angeles, Cal.
563,389—CAR COUPLING—J. C. Look, San Jose, Cal.
563,507—GAME—R. M. Nachmias, S. F.
563,682—ANIMAL TRAP—C. L. Parker, Los Angeles, Cal.
563,408—SUPPORTER—J. J. Pfister, S. F.
563,423—CAR—C. W. M. Smith, S. F.
563,514—ROTARY DISK PLOW—Spaulding & Robbins, Stockton, Cal.
563,515—ROTARY PLOW—Spaulding & Robbins, Stockton, Cal.
563,516—WHEELED PLOW—Spaulding & Robbins, Stockton, Cal.
563,430—WINDOW HINGE—R. R. Strain, S. F.
563,436—GAS REGULATOR—W. E. H. Williams, S. F.
563,349—WASHBOILER—I. H. Winget, Stuart, Cal.

FOR THE WEEK ENDING JULY 14, 1896.

563,841.—CABINET—Cavanaugh & Lusberg, Portland, Or.
564,062.—ELEVATOR BASE—G. H. Evans, Oroville, Cal.
563,760.—SCRAPER AND ELEVATOR—G. N. Folsom, Hobart, Nev.
563,952.—FAUCET—S. C. Freels, Hollister, Cal.
564,080.—PUMP—W. P. Keeler, Spokane, Wash.
564,085—WINDMILL—M. M. Kingmau, Chelan, Wash
564,089.—HORSE-COLLAR—R. G. Lehman, San Diego, Cal.
564,091.—VIOLIN BOW—J. D. Loppentein, Orange, Cal.
564,093—WRECKING FROG—C. K. Marshall, Tacoma, Wash.
564,024.—HYDROCARBON BURNER—Dr. F. McKinney, Los Angeles, Cal.
564,025.—SURVEYOR'S MONUMENT—R. J. Northam, La Miranda, Cal.
563,805.—CONCENTRATOR—W. A. Rockfellow, Baker City, Or.
564,163.—CAN-COOLING MACHINERY—H. Schaake, S. F.
564,116.—OVEN—A. Spangler, Silverton, Or.
563,821.—BICYCLE CRANK—A. A. Unruh, McMinnville, Or.

How's This!

We offer One Hundred Dollars reward for any case of Catarrh that cannot be cured by Hall's Catarrh Cure.

F. J. CHENEY & CO., Toledo, O

We, the undersigned, have known F. J. Cheney for the last 15 years, and believe him perfectly honorable in all business transactions and financially able to carry out any obligations made by their firm.

WEST & TRAUX, Wholesale Druggists, Toledo, O.
WALDING, KINNAN & MARVIN, Wholesale Druggists, Toledo, O.

Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Testimonials sent free. Price 75c. per bottle. Sold by all Druggists.

In the Producer's Interest.

The Dairymen's Union endeavor to obtain the highest market price for dairymen's products, and have been eminently successful in maintaining a good average on all products consigned to their care. Their clientage extends to all parts of the State, and the demand for the productions they handle is in a healthy condition.

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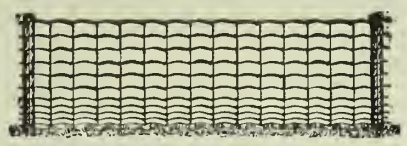
People who occasionally visit San Francisco appreciate the prompt service in baggage delivery for which the Morton Special Delivery is famous, and prefer to retain their baggage checks until they reach San Francisco, to engage this special delivery at the lowest rates.

NOTICE TO PASSENGERS.—Keep your baggage checks until you reach San Francisco, and you will save money by leaving same at any of our offices, our rates being lower than all others, viz., Trunks, 35 cents each. N. B.—We **do not** have any agents on the trains or steamers. MORTON SPECIAL DELIVERY, 408 Taylor St., 650 Market St., and Oakland Ferry Depot (foot of Market St.). *

One-third of all Harvesting Machinery in use is made by the McCormick Co. of Chicago



The Only Buffalo Fence.

The late Austin Corbin firmly believed it to be the Page. He used it freely on his great park in New Hampshire, and when he donated half his herd of Buffalo to the city of New York, he attended personally to having our fence enclose them. Not every farmer owns buffalo, but no one objects to a strong fence.

PAGE WOVEN WIRE FENCE CO., Adrian Mich.

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All bales exactly of same size.

FULL CIRCLE HAY & STRAW PRESS

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Easy to feed.

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Breeders' Directory.

Six lines or less in this directory at 50c per line per month.

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JERSEYS—The best A. J. C. C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

BULLS—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

PETER SAXE & SON, Lick House, S. F., Cal. Importers and Breeders, for past 21 years, of every variety of Cattle, Horses, Sheep and Hogs. Correspondence solicited.

Poultry.

SANTA TERESA POULTRY FARM, Eden Vale, Cal. Barred Plymouth Rocks. Black Minorcas, White Leghorns, Brown Leghorns. Eggs for sale. Send for circular.

PARKVIEW POULTRY FARM, F. P. Lowell, Prop., Sacramento, Cal. Breeder of high-class Black and White Langshans; Brown, Buff and White Leghorns; Black Spanish; Black Minorcas; Barred Plymouth Rocks and Pekin Ducks. Write for circular.

R. G. HEAD Napa, Cal., breeds all leading varieties pure-bred poultry. Eggs, $1.00 a setting. Send for new catalogue.

J. W. FORGEUS & CO., Santa Cruz, Cal. Fine Fowls and Eggs. Write to us

PURE BRED POULTRY AND EGGS. Carman Bros., San Jose, Cal. Barren eggs replaced.

WELLINGTON'S IMPROVED EGG FOOD for poultry. Every grocer and merchant keeps it.

MANHATTAN EGG FOOD, Red Ball Brand, at all grocers; or wholesale, Tillman & Bendel, S. F.

CALIFORNIA POULTRY FARM, Stockton, Cal. Send for illustrated and descriptive catalogue, free.

Swine.

F. H. BURKE, 626 Market St., S. F.—BERKSHIRES.

TYLER BEACH, San Jose, Cal. Breeder of Thoroughbred Berkshire and Essex Hogs.

A. P. HOTALING—Berkshires from imported stock—Mayfield, Santa Clara Co., Cal.

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J. B. HOYT, Bird's Landing, Cal. Importer and Breeder of Shropshire Sheep; also breeds Cross-bred Merino and Shropshire Sheep. Rams for sale. Prices to suit the times. Correspondence solicited.

C. P. BAILEY, San Jose, Cal. Pure bred Angora Goats and Persian Fat Tailed Sheep. Send for catalogue and price list.

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"Greenbank" Powdered Caustic Soda and Pure Potash.
T. W. JACKSON & CO.
Sole Agents. - - No. 226 Market Street, SAN FRANCISCO, CAL.

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Dipper, Grader and Spreader.

PREPARES PRUNES FOR THE DRY GROUND BETTER AND AT LESS EXPENSE THAN ANY OTHER MACHINE.

NO EXTRA HANDLING WHILE GRADING.

..A.. Perfect Dipper.
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REQUIRES FEWER MEN TO OPERATE IT THAN ANY OTHER PLAN.

THE ANDERSON IMPROVED DIPPER --- BETTER THAN EVER.

More sold this season than of all other makes combined. Address

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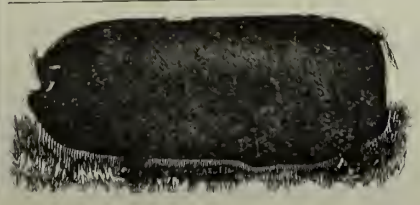

SESSIONS & CO.,

Lynwood Dairy and Stock Farm

P. O Box 686, Los Angeles, Cal.

Our exhibit at the State Fair has always attracted a great deal of attention and this year it will be fully up to the standard. All lovers of fine swine are invited to inspect the exhibit. We have a very choice lot of pigs ready to ship. Write for prices and get our circular.

Oranges

are heavy feeders of Potash. Potash exerts a marked influence on the quality and quantity of the fruit. As many soils are largely deficient in Potash, a heavy application of a fertilizer containing not less than **12% of**

Actual Potash

should be made. The best groves in the state will bear testimony to these facts.

Our pamphlets are not advertising circulars booming special fertilizers, but are practical works, containing latest researches on the subject of fertilization, and are really helpful to farmers. They are sent free for the asking.

GERMAN KALI WORKS, 93 Nassau St., New York

MEYER, WILSON & CO., San Francisco, Cal., are our Agents for the Pacific Coast.

RUSHFORD FARM..... WAGONS..

A Great Sacrifice Sale to Reduce Stock.

WE OFFER THE FOLLOWING SIZES BELOW COST:

FARM GEARS.

Cat. No.	Size Axle.	Style Axle.	Width Tire.	Capacity.
7	47	2⅛	Hollow Steel..	2 in.	2500 lbs.
5	47	2⅛	"	3 in.	2500 lbs.
5	48	2⅜	"	2½ in.	4000 lbs.
12	50	2⅞	"	4 in.	6500 lbs.
8	38	1¾	Concord Steel.	3 in.	4000 lbs.
3	40	2	"	2½ in.	6000 lbs.
4	40	2	"	3 in.	6000 lbs.
2	40	2	"	4 in.	6000 lbs.
8	18	3¼	Steel Skein...	2 in.	4000 lbs.
2	18	3¼	"	2½ in.	4000 lbs.
8	19	3½	"	2¼ in.	5000 lbs.
4	19	3½	"	3 in.	5000 lbs.

All these wagons are fresh stock, fully guaranteed, and prices can't be duplicated.

Write to us for green circular, and mention this paper.

HOOKER & CO.

16 and 18 Drumm St., SAN FRANCISCO, CAL.

Improved Pacific Incubator.

Absolutely Self-Regulating. Hot Water.

Send stamp for our catalogue of Incubators, Wire Netting, Blooded Fowls and Poultry Appliances generally. *Remember the Best is the Cheapest.*

PACIFIC INCUBATOR CO., 1317 Castro St., Oakland, Cal.

The AMERICAN Bee Journal — ESTABLISHED IN 1861 — OLDEST BEE-PAPER IN AMERICA — A Sample Free

The leading paper, and only weekly; 16 large pages. BE SURE to see it before subscribing for any other. G. W. YORK & Co., 56 Fifth Ave., CHICAGO, ILL.

Short-Horn Bulls FOR SALE.

ROBERT ASHBURNER,

Baden Station, San Mateo Co., Cal.

The Baden Farm Herd was established in 1867, with cows from then recent importations of the best English Milking Shorthorns, since which time improvement in dairy qualities has been steadily kept in view.

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, July 29, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	202,204	490,445	219,639
Wheat, ctls	141,982	314,978	643,868
Barley, ctls	215,018	298,641	380,471
Oats, ctls	10,863	34,326	24,133
Corn, ctls	6,725	9,717	5,434
Rye, ctls	1,235	2,000	4,054
Beans, sks	5,911	14,265	9,070
Potatoes, sks	18,581	59,210	65,129
Onions, sks	3,535	11,819	11,293
Hay, tons	4,497	11,319	14,711
Wool, bales	772	4,358	6,660
Hops, bales	90	130	....

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	205,428	439,156	135,495
Wheat, ctls	156,068	315,064	1,155,636
Barley, ctls	72,982	84,464	245,922
Oats, ctls	292	2,618	2,989
Corn, ctls	670	2,284	1,392
Beans, sks	899	12,732	33,774
Hay, bales	905	3,149	2,239
Wool, lbs	....	1,260,711	2,268,000
Hops, lbs	38,425	68,674	31,208
Honey, cases	9	157	930
Potatoes, pkgs	1,075	2,818	7,207

Grain Freights and Charters.

No pronounced changes have been developed since last review in freights by deep-sea vessels in the grain carrying trade. The supply of tonnage headed this way, while not so large as a year ago, is likely to prove more than sufficient for the necessities of the season, when taken in connection with the quantity which may be reasonably expected later on. In addition to the regular sailing fleet, numerous tramp steamers are on the way to this and Northern ports in search of wheat cargoes. A British steamer was chartered this week at £1 10s. for wheat to Cork for orders to United Kingdom or Continent. Iron ships are not quotable over £1 7s 6d to Cork for orders to United Kingdom, Havre, Antwerp or Dunkirk, the usual charter option.

Charters.

British bark Carleton, 1299 tons, wheat to Australia, £1 2s 6d.

British ship Durham, 2093 tons, wheat to U. K., Havre, Antwerp or Dunkirk, chartered in England.

British ship Primrose Hill, 2333 tons, merchandise to Sydney; lump sum.

British steamer Undaunted, 2026 tons, wheat to U. K. or Continent, £1 10s; direct port 1s 3d less.

British ship Queen Elizabeth, 1700 tons, wheat, flour or meachandise to U. K., Havre, Antwerp or Dunkirk; £1 7s 6d; direct port, £1 6s 3d, chartered prior to arrival.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive.
1896	53,513	37,320	258,137
1895	16,998	3,863	386,253

Flour.

There has been a liberal outward movement lately of this product, principally of local brands, going forward on contract to China. Market on local account has not developed any special activity. Values remain quotably as last noted, and for other than most favorite marks the market has been in favor of buyers.

Superfine, lower grades	$2 25@ —
Superfine, good to choice	2 40@2 50
Country grades, extras	2 85@3 15
Choice and extra choice	3 15@3 35
Fancy brands, jobbing	3 35@3 60
Oregon, Bakers' extra	2 75@3 00
Walla Walla, Bakers' extra	2 75@3 00

Wheat.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	5s 3½d@5s 4½d.	5s 5½d@5s 6d.
Freight rates,	35@37½s.	25@27½s.
Local market,	$0.91¼@95	$0.95@1.00.

The prices above are for spot lots of standard No. 1 California in Liverpool, and for good to choice shipping in this city.

A decidedly firmer tone was doveloped in the wheat market, both in Eastern and local centers, on Saturday last, speculative values here recording an advance of over one cent per cental, December delivery touching $1.00⅛ and closing at $1.00. In the open market there were no appreciable changes in quotable rates, but to have purchased freely the payment of higher figures than bad been ruling would have been necessary. The light reserves in importing countries, the amount on passage and the quantity of wheat in all positions would seem to warrant better prices than are ruling, even allowing that there will be a good average yield in America and Europe this season; but this latter is not yet an established fact. Unless heavy speculators should take hold freely, however, there will be poor prospects for any substantial advance. With the market dependent on hand-to-mouth consumers, there is little chance for the development of strength. By speculators taking hold, the writer does not mean in the modern system of Call Board dealings, which is mainly on paper, is more in the nature of gambling than speculating, and, in the opinion of a majority of those who are in a position to know and who are not directly interested in the system, has done great injury to the wheat-growing industry. Values on Call Board are to a great extent shaped by sheer force of coin, and the system does not aid to any appreciable degree in marketing actual wheat or in helping to get the product into consuming channels. Speculative values were not so well sustained early the current week as at the close of last, but spot offerings were in the main very steadily held. Wednesday there was a firmer tone, and little or no pressure to realize, at the expense of making concessions.

California Milling	$1 00@1 10
Cal. No. 1 shipping, alongside	95@ 97½
Oregon Valley	95@1 00
Walla Walla Blue Stem	1 00@1 10
Walla Walla Club	95@1 00

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, 98⅝@$1 00⅛.

May, 1897, delivery, $——@1.03¼.

Wednesday, at regular noon session of Call Board, December wheat sold at 99½@99⅝c; May, ——

Barley.

Two ships cleared the past week with full cargoes of barley for England, and more of this cereal is going aboard ship for same destination. The quantity of barley offering, however, is in excess of the immediate demand, and absence of firmness is a leading feature of the market. Shipments to date have been confined to the ordinary variety of brewing. Chevalier barley is offering in considerable quantity, but values for the same have not yet been established so as to warrant quoting in a regular way. Present indications are that good to choice will sell within range of 90c@$1 per cental, the latter figure likely to be an extreme. Low grade Chevalier will not be apt to command any more than the most ordinary descriptions of feed barley.

Feed, No. 1 to choice	67½@68¾
Feed, fair to good	65 @67½
Brewing, No. 1 to choice new	75 @80

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, 69¼@69¾c; May, 1897, delivery, ——@——c.

Wednesday at regular noon session of the Call Board nothing was done in barley.

Oats.

Desirable qualities of old oats are not in heavy stock, and are in the main being steadily held at full current quotations. Buyers are not taking hold very freely, however, and are not likely to in the near future, unless prices are shaded materially in their favor. New crop California oats are arriving in moderate quantity and are selling slowly at rather easy figures, not being desirable for immediate use.

White Oats, fancy feed	92½@— —
White, good to choice	85 @ 90
White, poor to fair	77½@ 82½
Gray, common to choice	77½@ 82½
Milling	85 @ 87½
Surprise, good to choice	97½@1 02½
New crop Cal. Oats	72½@ 82½

Corn.

Market continues quiet, with Large White in greater supply than is warranted by the immediate demand. California Large Yellow is scarce and market for same is favorable to sellers. Eastern Yellow is obtainable at easier figures than the home product. Small Yellow is only in moderate supply and the demand for this variety is of a light order.

Large White, good to choice	77½@ 82½
Large Yellow	92½@ 95
Small Yellow	95 @ 97½

Rye.

Offerings of new crop are fairly liberal, with demand slow, and buyers have much their own way as to prices.

Good to choice	70 @ 75

Buckwheat.

The same inactivity previously noted continues to prevail. Values are poorly defined.

Good to choice	80 @ 90

Beans.

Market is lacking in activity and firmness. Owing to the heavy spot supplies, the very limited shipping demand, and fairly good prospects for the coming crop, there is little or no encouragement for dealers to purchase ahead or on speculative account, even at the low prices now prevailing. Without some serious injury to the growing crop, values are not likely to rally materially this year.

Pea, fair to good, 100 lbs	$1 20 @1 35
Small White, good to choice	1 00 @1 15
Lady Washington	75 @1 00
Butter, small	1 10 @1 25
Pinks	65 @ 80
Bayos, good to choice	90 @1 05
Reds	1 20 @1 30
Red Kidneys	1 25 @1 50
Limas, good to choice	2 25 @2 40
Black-eye Beans	1 25 @1 50

Dried Peas.

Few are now offering, and the demand is likewise of an insignificant character. Quotations remain nominally as before.

Green Peas, California	$1 15 @1 30
Niles Peas	1 20 @——

Wool.

This market has relapsed into a most discouraging condition for the producing and selling interest. There is virtually nothing doing in this center. Eastern markets are dead, supposed to be due to the very unsettled condition of the financial market, and the uncertainty of the future regarding tariff and other matters directly affecting the wool industry. Some of the largest Eastern houses are not only out of the field as buyers, but refuse to receive wool on consignment. This industry never had a blacker eye than at the present time. Quotations cannot be said to represent other than asking figures.

SPRING.

Humboldt and Mendocino	10 @12
Northern California free	— @—
Northern defective	5½@ 7
San Joaquin Foothill, good to choice	6 @ 7½
San Joaquin, 12 months	4 @ 6½
San Joaquin and Southern, 6 months	4 @ 6
Nevada, as to condition	7 @ 9
Oregon Valley, select	9 @10½
Oregon Valley, low grade	8 @ 9½

Hops.

A New York authority of recent date has the following regarding the hop market East and elsewhere:

The progress of the growing crop is being watched with more than usual interest. As the vines begin to blossom in this State it looks as if previous estimates of the probable yield will have to be reduced—in fact, we think it safe to say that the crop will be at least 40 per cent short of last year. Reports from the Pacific coast do not change the general outlook materially; most estimates are one-third less than in 1895. Mail advices from Germany and England indicate about the same conditions as outlined in previous reports. Our market is not responding in any way to these reports. England seems to have no place for our hops at present, and brewers have so much stock still on hand that it is difficult to get them interested in samples. But while the general business appears to be very dull, arrivals are so light that there is a gradual reduction of the stock in first hands. Values are irregular and uncertain; there is a great difference between having to sell and wanting to buy. We retain former quotations—3@7c, as to quality—but remark that top rates are extreme; very little stock left that will grade above prime.

No evidence of any noteworthy business being transacted in this center, either in 1895 hops, or new to arrive. Good old are salable at about 2½c and choice at about 3c, but holders generally are unwilling to let go at these figures. The purchasing of new to arrive within range of 6@7½c has been mainly limited to the covering of previous sales made by the contracting buyers.

Fair to choice, 1895 crop	2 @4

Hay and Straw.

This market has been going from bad to worse. Although overstocked and demoralized the previous week, receipts have since been quite heavy. Sales at full figures were as a rule possible only in a small way to outside and irregular buyers.

NEW HAY.

Wheat	7 50@ 9 50
Wheat and Oat	6 50@ 8 50
Oat	5 00@ 7 50
Barley	6 00@ 7 50
Clover	5 00@ 7 00
Stock Hay	4 00@ 5 00
Alfalfa, first cutting	4 00@ 5 00

OLD HAY.

Wheat, fair to choice	8 00@11 50
Straw, ₱ bale	30@ 40

Millstuffs.

Most kinds are in liberal supply and still more favorable to buyers than last quoted.

Bran, ₱ ton	11 00@13 00
Middlings	14 00@16 00
Barley, Rolled	15 00@15 50
Cornmeal	19 50@20 00
Cracked Corn	20 50@21 00

Hides, Pelts and Tallow.

Market is very quiet throughout, presenting no new or noteworthy features.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	7 @ 7½	6 @ 6½
Medium Steers, 48 to 56 lbs	6 @ 6½	5 @ 5½
Light Steers, under 48 lbs	— @ 5	— @ 4
Heavy Cow Hides, over 50 lbs.	5 @ 5½	4 @ 4½
Light Cow Hides, under 50 lbs.	— @ 5	— @ 4
Wet Salted Kip	— @ 5	— @ 4
Wet Salted Veal	— @ 6	— @ 5
Wet Salted Calf	7 @ 8	6 @ 7
Dry Hides, round lots, 9@10c.	10½@11	8 @ 8½
Dry Kip and Veal, 11 to 16 lbs.	8 @ 9	— @ 7
Dry Calf, under 4 lbs	— @15	— @10

Pelts, long wool, per skin	50 @60
Pelts, medium, per skin	40 @50
Pelts, short wool, per skin	20 @35
Pelts, shearling, per skin	10 @15
Deer Skins, best summer	— @30
Deer Skins, good medium	15 @25
Deer Skins, thin winter	7 @10
Elk Hides	8 @ 9
Tallow, good quality	3 @ 3¼
Tallow, No. 2	2½@ —
Goat Skins, perfect	20 @35
Goat Skins, damaged	10 @20
Kid Skins	5 @ —

Seeds.

Mustard seed is in light supply here, and there is not much of old crop in the interior to come forward. New will soon be on the market, but the quantity will be light and the quality below the average. Market is firm at the quotations.

	Per ctl.
Mustard, Yellow	1 60@1 75
Mustard, Trieste Seed	2 75@3 00
Mustard, Wild Brown	1 75@2 00
Flax	1 50@1 60
	Per lb.
Canary	2½@2¾
Rape	2 @2¼
Hemp	3¼@3½
Alfalfa, Utah	—@ —

Bags and Bagging.

A moderate amount of business is doing in grain bags at generally unchanged rates, with nothing to warrant anticipating any noteworthy fluctuations in values for the next few months. Wool sacks are receiving very little attention. Other bags are offering in the main at unchanged rates.

Grain bags, 22x36, spot	4¼@ 4½
Wool sacks, 4 lb.	28 @—
Wool sacks, 3½ lb.	26 @—
Gunnies	12 @—
Bean bags	4 @ 4¼
Fruit sacks, cotton	5½@ 7½

Honey.

Not much offering, and as the crop is a comparative failure, stocks will be light throughout the season. The demand at current rates is confined almost wholly to local requirements.

White Comb, 1-lb frames	11 @12½
Amber Comb	7½@10
Extracted, White Liquid	5 @ 5½
Extracted, Light Amber	4½@ 4¾
Amber Colored and Candied	3¾@ 4
Dark Tule	2¾@ 3

Beeswax.

Market in a somewhat unsettled condition, owing to much of this product having been lately adulterated. Foreign buyers now insist on a guarantee as to purity before making further purchases.

Fair to choice, ₱ lb	22@26

Live Stock and Meats.

Hog market is weak at the quotations, with

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prospects of prices going still lower. Following are wholesale rates:

Beef, 1st quality, dressed, net ℔ lb	5 @—
Beef, 2d quality	4½@ 4¾
Beef, 3d quality	3½@ 4
Mutton—ewes, 4½@5c; wethers	5 @ 5½
Hogs, hard grain fed, light fat	3⅝@ 3½
Hogs, large hard	3 @ 3¼
Hogs, soft and feeders	2½@—
Hogs, country dressed	4⅜@ 4⅝
Veal, small, ℔ lb	5 @ 6
Lamb, spring, ℔ lb	5 @ 6

Poultry.

There was considerable poultry carried over from previous week, both by commission houses and retailers. A carload of Eastern arrived the current week, and there were moderate receipts of California and Oregon poultry. Prices were in the main at a low range, especially for ducks and chickens, other than extra large and fat. The latter were scarce and were salahle at an advance on quotations.

Turkeys, live hens, ℔ lb	12@ 13
Turkeys, live gobblers	13@ 14
Turkeys, young	17@ 18
Hens, Cal., ℔ doz	4 00@5 00
Roosters, old	4 00@4 50
Roosters, young, (full-grown)	4 00@5 25
Fryers	3 25@3 50
Broilers, large	2 50@3 00
Broilers, small	1 50@2 00
Ducks, young, ℔ doz	2 50@4 00
Ducks, old	2 50@3 00
Geese, ℔ pair	1 00@1 50
Goslings, ℔ pair	—@—
Pigeons, ℔ doz	1 25@1 50

Butter.

The advanced figures established the past week for the better grades of fresh have reduced the demand to a considerable extent. Retailers and consumers are in many instances economizing in various ways, some going more to cheaper sorts of fresh and others resorting to packed. The market has in consequence been less buoyant in tone than during preceding week. For brands of excellent quality and in high repute, however, comparatively good prices were realized.

Creamery extras, ℔ lb	19 @—
Creamery firsts	18 @—
Creamery seconds	16½@—
Dairy select	17 @—
Dairy seconds	14 @15
Dairy, soft and weedy	10 @11
Mixed store	10 @12
Creamery in tubs	15 @16
Pickled roll	15 @16
Dairy in tubs	14 @15
Firkin, Cal., choice to select	14 @15
Firkin, common to fair	11 @12½

Cheese.

There are no heavy supplies in this center, and market is moderately firm at the quotations. Trade is mostly of a jobbing order. If there were free offerings, or any special pressure to realize, full current values could not be realized.

California fancy flat, new	8½@ 9
California, good to choice	7 @ 8
California, fair to good	6 @ 7
California, "Young Americas"	8 @ 9½

Eggs.

As during the preceding week, the tendency of prices for the most desirable fresh has been in favor of the producer. Cboice to select are quotably higher than last noted. Some of very superior quality brought an advance on top figures quoted. Ordinary qualities were without special improvement in quotable values, but were in less excessive stock than for some weeks preceding.

California, select, large white and fresh	21 @—
California, select, irregular color & size	16 @20
California, good to choice store	12½@15
California, common to fair store	10 @11
Oregon, prime	13 @15
Eastern, as to section and grading	13 @15
Eastern, seconds	10 @11
Duck eggs	14 @15

Vegetables.

Most kinds now in season bave been in sufficient supply to keep the market in the main favorable to buyers. Yellow onions ruled slightly steadier, Cucumhers and summer squash went at very low figures.

Asparagus, Fancy, ℔ box	— —@— —
Asparagus, common to good, ℔ box	— —@— —
Beans, String, ℔ ℔	1½@ 3
Beans, Wax, ℔ ℔	1½@ 3
Beans, Garden, ℔ ℔	2@ 3
Cabbage, choice garden, ℔ 100	50@ 60
Cauliflower, ℔ doz	40@ 50
Corn, Alameda Sweet, ℔ crate	1 25@ 1 75
Corn, Berkeley, ℔ crate	85@ 1 00
Corn, Vacaville and Winters, ℔ crate	—@— —
Corn, Green, ℔ sack	50@ 75
Cucumbers, Alameda, large box	20@ 35
Egg Plant, ℔ box	50@ 75
Garlic, ℔ ℔	1½@ 2½
Okra, Green, ℔ box	50@ 1 00
Onions, Red, ℔ cental	—@ —
Onions, Yellow, good to choice	35@ 40
Peas, Green, ℔ sack	50@ 1 00
Peppers, Green Chile, ℔ box	25@ 50
Pepper, Bell, ℔ large box	50@ 1 00
Rhubarb, ℔ box	40@ 75
Squash, Bay, ℔ large box	15@ 25
Tomatoes, River, per large box	60@ 85
Tomatoes, Vacaville, ℔ box	15@ 25
Watermelons, per 100	7 00@12 00
Canteloupes, per crate	2 00@ 4 00

Potatoes.

Market has been less heavily stocked with Sacramento river product, such going at slightly higher figures. Choice to select Burbanks from Salinas valley have brought moderately good prices, considering the general condition of the market, but no large quantities of these were salable at the prevailing rates.

IN SACKS.

Early Rose, River, ℔ cental	40@ 50
Peerless, River	40@ 50
Garnet Chile, Mission	50@ 65
Burbanks, River	35@ 50
Burbanks, Salinas	60@ 85

The Fruit Market.

Fresh Fruits.

Receipts of fresh fruits were of fair proportions, but it was the exception where there were excessive supplies of choice to select. Desirable qualities of most descriptions brought as a rule moderately good figures, but values did not show many pronounced changes from the quotable range of the previous week.

Apples were in fair receipt, with supplies of Gravenstein and a few later varieties on the increase. The market was somewhat easier than last quoted, $1 per 4-tier hox being about the utmost warranted as a quotation at this date.

Apricots are coming forward now in light quantity, and are mostly under choice. Select Moorparks are especially scarce and are salable at stiff prices, higher than helow noted. Choice to select are in too light stock to justify quoting in a regular way.

Peaches were in fully as liberal stock as previously noted, and the market remained favorable to huyers. Much of this fruit from tbe Sacramento river section was dead ripe and would not admit of much handling.

Pears continued to be offered freely, and prices remained at a low range. Bartletts are the principal variety now in stock.

Plums do not make much of a showing. Peach plums and other desirable varieties in prime condition sell to fair advantage.

Prunes were also in light receipt, and are not likely to be in very heavy supply at any time during the current season.

Nectarines of the white variety are rather plentiful and are offering at easy rates. Red nectarines are scarce and there is good inquiry for this variety.

Figs are again on the market in moderate quantity, but the demand for them is not very extensive.

Watermelons are arriving in improved condition, and the weather has been in the main favorable for this fruit. Cantaloupes have so far been mostly too green to be desirable, hut ripe ones will soon be in liberal receipt.

Grapes on the market are mainly the Fontainebleau and Sweetwater varieties, and of these there has been a sufficiency for immediate requirements.

Berries of all sorts now in season sold at generally unchanged rates, with the demand not very extensive or urgent.

Apples, Gravenstein, 50-℔ box	65@ 95
Apples, Gravenstein, fancy, 4-tier	75@ 1 00
Apples, Red Astrachan, 50-℔ box	25@ 75
Apples, Green, ℔ 50-lb. box	30@ 60
Crabapples, ℔ box	35@ 50
Apricots, ℔ ton	20 00@35 00
Apricots, Royal, ℔ 6-in. box	50@ 75
Apricots, Royal, ℔ 22-in. box	35@ 50
Figs, Black, ℔ 2-tier 15-℔ box	1 00@ 1 25
Figs, Black, ℔ 1-tier box	50@ 75
Figs, White, ℔ box	40@ 65
Nectraines, Red. ℔ box	50@ 75
Nectarines, White, ℔ box	25@ 40
Prunes, Tragedy and German, ℔ crate	65@ 75
Peaches, fancy wrapped, ℔ box	30@ 40
Peaches, good to choice, ℔ box	20@ 35
Peaches, per ton	20 00@25 00
Pears, Bartlett, No. 1, per box	40@ 60
Pears, Bartlett, No. 2, per box	30@ 40
Pears, other kinds, ℔ box	25@ 50
Plums, Peach, ℔ box	40@ 65
Plums, other kinds, ℔ box	35@ 50
Plums, ℔ crate	40@ 65
Plums, Green Gage, per ton	20 00@25 00

Berries.

Blackberries, ℔ chest	2 50@ 3 50
Currants, Red, ℔ chest	— —@— —
Raspberries, ℔ chest	3 00@ 5 00
Strawberries, Longworth, ℔ chest	3 00@ 4 00
Strawberries, Large, ℔ chest	2 00@ 3 00

Grapes.

Fontainebleau, Cal., per crate	50@ 65
Fontainebleau, Cal., per box	35@ 50

Dried Fruit.

Eastern advices by mail report tbe New York dried fruit market as follows:

Current business in evaporated apples is confined wholly to jobbing sales, and while there is a moderate inquiry from that source holders are desirous of moving stock as promptly as possible, and have yielded a little in price. Small lots of fancy fruit sell at 6@6¼c, choice at 5¼@5½c, and prime would not exceed 5c, except in a peddling way. Some round lots of prime old stock have been offered from interior refrigerators at 4½c. Several lots of poor southern apples are still in stock for which there is no demand Considerable business has been done in new fruit for October and November delivery; latest sales have been at 5c for prime and 5¼c for choice. A very heavy crop of apples is in sight, and makers seem inclined to accept those prices. All grades of sun-dried apples are having dull sale, and values are somewhat nominal. Demand for cores and skins has fallen off, and 3c is an outside rate for round lots; few small lots can be bought for less. Sales of new waste, October delivery, have been made at 1⅝@1¾c, but it can now be bought at 1½c. Several carloads of chops were placed at 1⅞@2c, October and November delivery, but they are offering at the close at 1¾c. Nothing doing in peaches. Raspberries have further declined and are dull. A few barrels of new cherries are held at 10@10½c; not much old stock left, and very little demand. Huckleberries firmly held Blackberries steady. A few carloads of California new apricots have arrived, and small sales of Royal are reported at 8@8½c. Peaches slow. Prunes steady and selling fairly.

There is not much business to report in this line, and the general condition remains much the same as noted in last issue, although there is a slightly better tone perceptible. The improved feeling is confined mainly to the hetter grades of fruit, the output of choice to select promising to be light in California the current season. There is one serious drawhack, however, to the development of any special strength, and that is the decision of most Eastern operators to avoid purchasing very extensively of dried fruit or any other commodity in the face of the present unsettled condition of the finances of the country. Conservative houses are keeping very close to shore, not caring to give much credit, even to first-class customers of good standing, until affairs, political and financial, assume a better defined and more satisfactory shape than at present. New apricots, bleached, of the Royal variety are selling in a small way at 6@6½c, as to quality, San Francisco delivery. Choice to select Moorparks promise to command fancy figures, but values for the same are not yet established sufficiently to warrant quoting. New peaches are expected to put in an appearance about the first week in August. The market for cboice evaporated will probably open at 5@5½c. Some choice old have changed hands at 4¼@4½c. Apples bid fair to rule firmer in this market than last season, owing to light crop in California. As thcre will be a heavy crop East, however, there will he little or no chance for a boom. Prunes of the coming crop do not promise as well as a few weeks ago. The quantity may not aggregate much below that of last year, hut the quality will not average so good. One lot of about 7000 pounds, 60-70s, of last crop, sold at 3¼c. This is on the basis of 2½c for the four sizes. There are some here which will not command custom at above level of values.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per ℔	6 @ 6½
Apples, in boxes	4½@—
Peaches, unpeeled	3½@ 4
Peaches, peeled	9 @11
Pears, peeled and sliced	4 @ 7
Pears, quartered	4 @ 7
Plums, pitted	3 @ 4
Prunes, in sacks, 4 sizes	2½@—
Prunes, in sacks, small sizes	1½@ 2

COMMON SUN-DRIED.

Apricots, ordinary	— @ —
Apples, sliced	1½@ 2
Apples, quartered	— @ —
Peaches, unpeeled	2½@ 3
Pears, quartered, 1½@3c; sliced	3 @ 3½
Plums, unpitted	1 @ 1½

Raisins.

Market is showing slightly improved condition, both for old stock which is light and for new to arrive. Layers are being contracted for at $1.15 per box for the first half of October. Some forward sales of Loose Muscatel are being made on the basis of 3¾c for 4-crown, Fresno delivery. Loose Muscatel of last crop now here are held at an advance, and are in few hands. Some layers which have sugared are obtainable down to 60c per box.

Boxes, London layers, 20-℔ box	75@ 85
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ℔ ℔	4 @4¼
Loose Muscatel, 3-crown	3½@3¾
Loose Muscatel, 2-crown	3 @3¼
Sultanas	4 @ —
Seedless Muscatel	3¼@3½

Citrus Fruit.

Oranges are in such slim supply that they are hardly quotable. Present stocks admit only of the filling of small orders.

Lemon market is showing less activity and less firmness than noted a week ago, owing to limes being in a fair supply. Stocks of choice lemons are not heavy, however, and prices for the same do not tend specially in buyers' favor.

Oranges—Wash. Navels, ℔ box	3 00@ 3 50
Cal. Mediterranean Sweet	2 00@ 3 00
Cal. Seedlings	1 25@ 2 50
Lemons—Cal., select, ℔ box	3 50@ 3 75
Cal., good to choice	2 50@ 3 00
Cal., commou to good	2 00@ 2 50
Lemons—Mexican, ℔ box	7 00@ 9 00
Cal., small box	1 25@ 1 50

Nuts.

Almonds of 1895 crop are still offering in moderate quantity and moving slowly. Whitc walnuts are almost out of stock. In new nuts for forward delivery there are no transactions reported.

California Almonds, paper shell	7 @ 8
California Almonds, soft shell	4 @ 6
California Almonds, standard	3 @ 3½
California Almonds, hard shell	2 @ 2½
Walnuts White, paper shell	11 @12
Walnuts White, soft shell	9 @10
Walnuts White, Cal., hard shell	7 @ 7½
Peanuts, Cal., fair to prime	5½@ 6
Peanuts, Eastern hand-picked	5½@ 6½
Pine Nuts	12 @14

California Fruit Sales.

NEW YORK, July 22.—The Earl Fruit Company sold California fruit in the Union auction rooms to-day at the following prices: Pears—Bartlett $1.25@1.80 per box; Souvenir de Cougress, $1.40@1.50.

CHICAGO, July 22.—The Earl Fruit Company sold California Bartlett pears in the Union auction rooms to-day at $1.05@1.25 per box.

NEW YORK, July 24.—The Earl Fruit Company sold California fruit at the following prices: Prunes—Tragedy, $1@1.35 per half-crate; German. $2. Plums—Washington, 95c@$1.20 per half-crate; Purple Duanes, $1@1.20; Peach, 70@95c; Japan, 65@95c. Peaches—Hale's Early, 60c per box. Pears—Bartlett, $1.25@1.80 per box; Souvenir de Congress, $1.10@1.25.

CHICAGO, July 28.—The Earl Fruit Company sold California fruit in the Union auction to-day at the following prices: Pears—Bartlett, $1.20@1.25 per box. Prunes—German, $1.20@1.25 per half-crate. Plums—Bradshaw, 95c@$1.20 per half-crate; Washington, 86@95c; Purple Duane, $1@1.10; Egg, $1. Peaches—Early Crawford, 85c@$1 per box.

NEW YORK, July 28.—The Earl Fruit Company sold California fruit in the Union auction to-day at the following prices: Pears—Bartlett, $1.50@1.95 per box. Plums—Kelsey, $2.15@2.30 per half-crate; Washington, $1.05@1.25; Purple Duane, 80c $1.20; Walling, 90c@$1.10. Prunes—Tragedy, 85c@$1.40 per half-crate; German, $1.25.

NEW YORK, July 28.—Porter Bros. Company sold to-day at open auction: Plums—Japan, $3.85@5.75; average, $4.96½ per crate; other varieties, 65c@$1.10. Pears—Bartlett, $1.30@1 95 per box and a few at $1.15. Peaches—Early Crawfords averaged $1.15@1.50 per box. Plums—Tragedys, $1@1.30 per half-crate; Germans, $1.10@1.25.

CHICAGO, July 27.—The Earl Fruit Company sold California fruit in the union auction to-day, realizing the following prices: Plums—Kelsey, $1.35 per half crate; Burbanks, 55c@$1.40; Satsuma, 85c@90c; Washington, 70@90c; Bradshaw, $1.15. Peaches—Crawford, 55@80c; St. John, 25@65c; Imperial, 90c. Prunes—Tragedy, 75c@$1.25 per half crate; German, $1.10. Bartlett Pears, 95c@$1.40 per box.

MINNEAPOLIS, July 27.—Porter Bros. Co. sold to-day at open auction: Pears—Bartletts, $1.30 per box. Prunes—Tragedy and German, $1@1.10 per half crate. Plums—Purple Duane, 85c@$1 per half crate. Peaches—Early Crawfords, 65@70c per box.

BOSTON, July 27.—Porter Bros. Co. sold to-day at public auction: Pears—Bartletts, $1.65@2.10 per box. Prunes—Tragedy, $1.25@1.80 per half crate; German, $1.20@1.40. Peaches—Early Crawfords, 85c@1.50 per box; St. Johns, $1.35@1.40; Deckers, $1.30. Plums—Bradshaws, $1.40 per half crate; Bloods, $1.35; Purple Duane, 70c@$1.30; Washington, 70c@1.15; Royal Hative, $1.

NEW YORK, July 27.—The Earl Fruit Company sold California fruit in the union auction to day at the following prices: Prunes—Tragedy, 85c@$1.50 per half crate. Plums—Purple Duane, 95c@$1.25 per half crate; Peach, 55c@$1.15; Japan, 45c@$1.20; Washington, 65c@$1.20; Bradshaw, $1.05; Jefferson, $1.05. Pears—Bartlett, 90c@$1.80 per box; Souvenir de Congress, 90c@$1.60. Hale's Early Peaches, 50@95c. Oregon Cherries—Binghamton, $1.25@1.45 per box; Oregon, 90c@$1.05; Black Republican, 55c@$1.25; Royal Anne, in bad order, 20@95c.

CHICAGO, July 27.—Porter Brothers Company sold at open auction to-day: Pears—Bartlett, $1.30@1 55 per box. Plums—Japan, 70c@$1.30 per half crate; Bryan Silver, $1.25; other varieties, 30c@$1. Prunes—Tragedy, 75c@$1 25 per half crate; German, $1.20. Peaches—Early Crawford, 30c@$1 per box; Foster, 45@90c; other varieties, 10@75c. Grapes, 70c per half crate. Nectarines—White, 55c per half crate. Apples, 30c.

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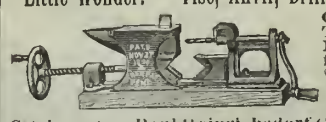
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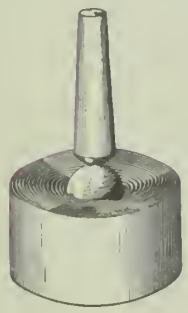

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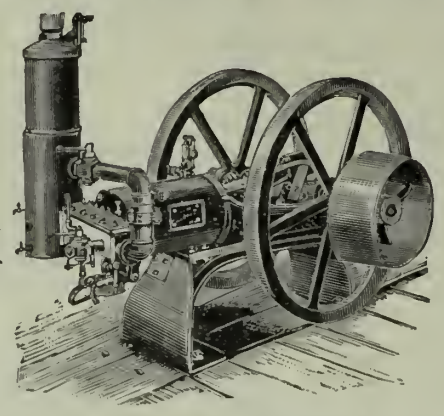

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Coal Gas, ten hours' run, 1000 feet	$2 00
Gasoline (74 deg.), ten hours' run, 8¾ gallons @ 14c.	1 25
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Crude Petroleum (36 deg.), paraffine base, 13 gallons @ 5c	65

On tbe crude petroleum with asphaltum base we bad an over-product of 7 gallons of aspbaltum; the market price is 3 cents per gallon=21 cents. This deducted from the first cost of the crude petroleum for ten bours' run leaves a net balance of 27 cents. And from the crude oil witb a paraffine base we had an over-product of 3 gallons of good lubricating oil, which we consider equal to any we have ever used, but will estimate its value conservatively at 20 cents per gallon, making 60 cents; this deducted from the first cost of tbe crude oil leaves a balance of 5 cents, total cost of running ten hours.

It will be readily seen tbat tbe operation of these Engines with crude petroleum reduces the cost of operation to aminimum. Crude petroleum with paraffine base at 1-10c per horse power per hour; on crude petroleum, asphaltum base, ¼c per horse power per hour; on domestic coal oil, 1¼c per horse power per hour; and on gasoline, 2¼c per horse power per hour.

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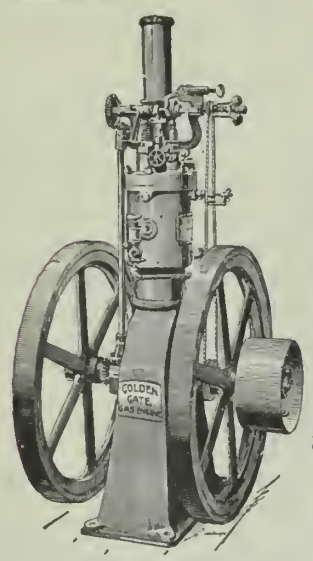

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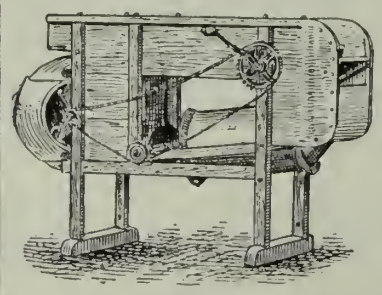

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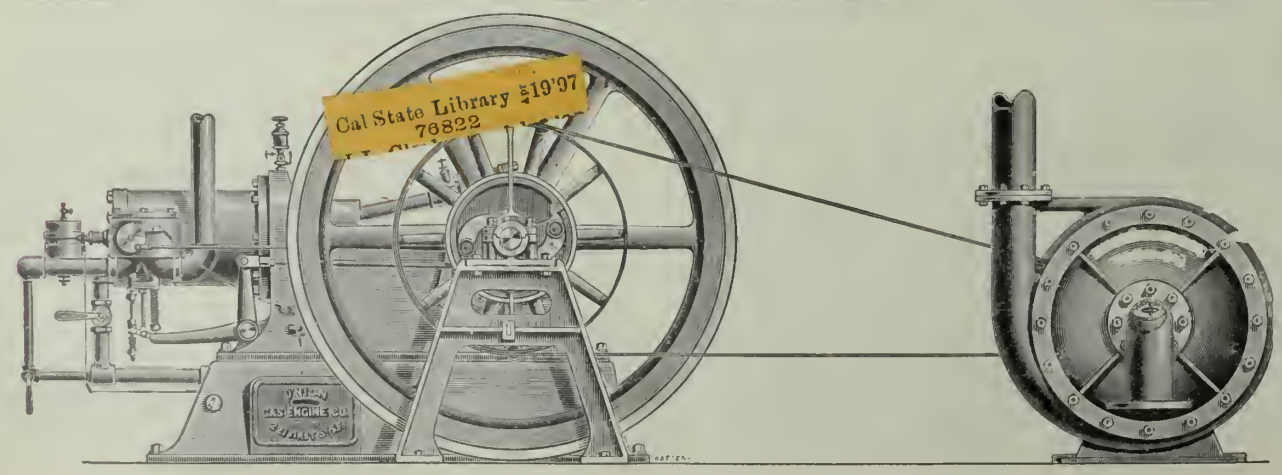

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Vol. LII. No. 6 SAN FRANCISCO, SATURDAY, AUGUST 8, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.

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Great Stump Pulling.

It is fitting that California, the land of big trees and consequently of big stumps, should teach the world something of the ease with which these great growths may be removed from the path of civilization when the soil which supports them is needed for progressive culture. Readers of the RURAL have heard before of the device known as the "California Stump Puller," but those who have not used it have probably not appreciated its capacity for hard work. We confess that such has been our own state of mind and we have gained new respect for the arrangement since we have seen the photographs from which the engravings on this page have been made. That such towering masses can be uprooted and overturned by a simple application of mechanical principles in a way that a single horse, who could not pull out a stout sapling by a direct pull, can uproot a monster of the forest, is almost incredible. And yet the several photographs show all that is involved in the work and the result accomplished. Such scenes as the pictures present are not uncommon in the heavily wooded counties north of San Francisco, and to a less extent in other parts of the State, and thousands of acres have been reclaimed and put to productive cultures through the agency of this California invention.

When it is calculated that by the use of this device, properly adjusted, one horse is enabled to produce an effect equal to the capacity of 60 horses without it, and that a 1200-pound horse which can move a dead weight of one and a half tons for a short distance can move a dead weight of 90 tons with the devices employed in the machine, it is not so wonderful that the ordinary horse shown in the picture should by aid of leverage and steel cables overturn the great masses indicated. It is difficult to estimate the industrial importance of the appliances shown herewith. Nature is always putting trees and rocks in the wrong place, as seen from man's industrial point of view, and that a man can so effectively and cheaply put things to rights is of importance in nearly all lines of outdoor activity. The question of stumps is also a timely one in view of the current political campaign and the instances of stump-moving may be inspiring to some of our fall crop of orators.

CALIFORNIA STUMP PULLER, SHOWING CAPSTAN.

MOVING STUMP TO PILE FOR BURNING.

SHOWING THE ATTACHMENTS OF PULLEY BLOCKS.

NOT only gifts of flowers, but also boxes of delicious fruit, are being sent to the Woman Suffrage headquarters in this city by distant suffragists, who take this very agreeable way of paying tribute to the cause they love. Among Tuesday's offerings were a magnificent display of gladiolas and flowers from other bulbous plants, and small crates of luscious peaches from Mrs. Berry and Mrs. Danielson of Suisun, and other ladies from different localities of the State.

Forest Investigations.

Germane to the subject of stumps is that of forest conservation. The thought of clearing should always be associated with a thought of saving, rather than of destroying. Unfortunately, this is not always the case, and men, urged by greed, have attacked forests as though they were a curse, instead of a blessing. They do this sometimes after securing a property right to the trees, but often without the slightest shadow of a title to the wealth they take possession of. In spite of the recent Congressional enactments, this has gone on, and many now find themselves in the hands of the law. Fortunately, the United States proposes to do more than punish timber thieves after they have disposed of their plunder; it proposes to prevent their evil work. There will soon be within the territory of California a body of able men entitled to call themselves the National Forestry Commission. The duties of this Commission, brought into existence by virtue of a liberal Congressional appropriation to be expended under the direction of the Secretary of the Interior, Hoke Smith, and the members of which were appointed under the auspices of the National Academy of Sciences, are to investigate the condition of the extensive national forestry of the United States and make recommendations as to the best means and methods of perpetuation and preservation from wanton devastation and destruction by fire.

The National Forestry Commission is composed of Professor Charles S. Sargent of Harvard, chairman; Professor Arnold Hague, United States Geological Survey; Professor William H. Brewer, Yale; General Henry L. Abbott, retired army engineer; Gifford Pinchot of New York, and E. H. Shuster of Washington City, clerk of the board. The board has been out since July 1, having inspected the forestry of North Dakota, South Dakota, Montana, Idaho and eastern Washington. The first half of August will be spent in traversing western Washington forests and exploring the Olympic mountains. The Commission will then proceed to California, thence through Arizona and Nevada, concluding its labors with Colorado some time in September. Several gentlemen of the Commission, notably Professors Sargent and Brewer, are well known in California and will be warmly welcomed upon their arrival in this State.

IT IS cabled from Shanghai that a tidal wave, estimated to have been about five miles in length, swept in from the sea on Sunday last and inundated the coast of Hyehau, in the northeast of the province of Kiang Su. The damage done was very great and many villages were destroyed.

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Registered at S. F. Postoffice as second-class mail matter.

ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, August 8, 1896.

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The Week.

Weather and Crops.

The weather has dropped back to its usual midsummer pace this week and seasonable work has proceeded regularly. Rains are predicted for the extreme north, and the dairymen on the coast are ready for them. The rest of the State has much work to do before rains will be welcome. The fruit harvest is yielding rather better rates than last year, but the weights are light. Eastern prices are better, and the trade is assuming a fair volume. Dried fruits are beginning to move a little, but values are not yet determined. Public attention is engrossed with political affairs, and there are still three long months for the great *issboos*. After that, with good rains, it is fair to expect more activity in California than has recently been experienced.

The following data for the week ending 5 A. M. Wednesday, Aug. 5, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	.04	.04	.11	.15	70	50
Red Bluff	....	....	.16	.02	98	64
Sacramento	....	....	.04	T	*	56
San Francisco	....	.04	.04	.02	69	53
Fresno	....	.06	T	T	100	60
San Luis Obispo	....	.04	.01	*	96	50
Los Angeles	....	T	T	.03	88	56
San Diego	....	T	....	.02	78	56
Yuma	T	32	.01	.23	106	68

* Indicates no record.

Stamping Out Tuberculosis.

The warfare against tuberculosis cows is proceeding with much vigor and county supervisors are smoothing the way for veterinarians in counties where there are towns large enough to have an important milk trade. San Francisco has been destroying diseased cows for some weeks, as has been stated in our columns. Sacramento has a new and stringent ordinance in process of enactment; Oakland and Alameda are in the same work, and Santa Clara is making significant records. Other towns are making similar warfare. In his July report to the Santa Clara Supervisors, Veterinary Inspector Spencer states that "all the herds that we have finished inspecting up to date are ready for slaughter and their owners have signed their consent to the same." That is a direct assertion that every dairyman who has heretofore refused to permit the inspector to destroy his condemned cows is now willing that they be slaughtered. In his report, Inspector Spencer says: "The tuberculin test has been applied to 492 cattle, 147 of which have been condemned as tuberculous. In addition to these I have allowed 47 to be presented for a second test, not that there was any reason to suppose that the result would be any different, but solely to gratify the owners." The Supervisors have passed an ordinance making it a misdemeanor for anyone to make and use a brand with the purpose of marking their cattle as perfect, and thereby avoiding a test being made.

California Peaches Are Making a Record.

We have heard so much of the new peach regions in Georgia and elsewhere, and have been so frightened (?) at the declarations of what they would do, that it is real comforting to know that the old peach glory of California has not departed, nor is it likely to depart. Current comments show that the Eastern peaches are small and inferior and are not in it with California fruit. The fact that Eastern canners are still stealing California labels shows what the popular standard of excellence is. But sales are more eloquent than tributes, and, though we do not give what follows as an indication of the average or of what may be usually expected, it is significant to have high water marks in a period of low tides like the present. Porter Brothers' agent is authority for the following statements:

Our sales for the week have made the growers considerable money, as, for instance, our sale in New York, July 30th, of Vacaville fruit, where the car sold for over $1900 gross; on the 31st inst., fruit from the same district, the car sold for nearly $1700 gross; a car, mostly peaches, from Newcastle district, sold for over $1450 gross. In Boston, on the 31st, a car, mostly peaches, from Vacaville, was sold by us for account of F. H. Buck for $2283.85 gross. Mr. Buck says this is the largest sale ever made on peaches. On the same day and in the same market we sold a car of pears and plums from Sacramento district for nearly $1300 gross. On August 1st, in Boston, we sold a Vacaville car of fruit for $1836.65 gross, and yet another car at the same time from Vacaville for $1729.55 gross. And in New York, on August 1st, we sold a car, mostly peaches, from the Lodi district, for $1537. In fact, our sales in all of the markets for the past week show a good profit to the growers. The peach market is exceptionally good, and on July 31st peaches from the Sacramento river district were sold in Boston at $2 to $2.55 per box, and fine prices were realized all along the line.

Latest from the Perkins Process.

Californians will read with interest of the process of sterilized air as a substitute for ice in fruit shipping. The *Rural New Yorker* gives an account of the first car which brought to New York a load of Georgia peaches as follows:

Was this shipment a success? Hardly. To follow their original plan, the car of fruit should have been thoroughly cooled after being packed and sealed up; this was not done. Some other details, also, were not fully carried out. The car was delayed somewhat in transit, but the peaches came out in fairly good condition, probably not much different from those in refrigerator cars handled under the same conditions. The receiver of these peaches said that he believed that they would have come through in nearly as good condition in an ordinary ventilated car. He said that it was claimed that the fruit could be left in these cars for a number of days after arrival without harm; but that as soon as it arrived, he was notified to unload it at once. It should have been about midnight Friday, or very early on Saturday morning. Instead, it arrived about 7 o'clock, after the market was practically over, and it was necessary to unload the fruit and put it into cold storage to save it. Of course, it could not be sold until Monday, and it was then in such condition that it didn't bring nearly so high prices as it would have done early Saturday morning. It was claimed, however, that some of the fruit was overripe when put into the car. They comprised a number of different varieties—Crosby, Elberta, Stump, Belle of Georgia and others—and most of them seemed in good condition. Some were badly decayed, but this season has been very favorable to decay.

The peaches were loaded in the car in a perfect manner. They were packed in six-till carriers, each carrier said to hold 35 to 40 pounds of peaches. These carriers are made of thin stuff, and are very open, so as to ventilate the contents properly.

We shall hope to have accounts which will show the working of the process when no rebates on condition have to be allowed.

Depth of the Summer Wind.

People who proclaim against the push of the summer wind in the vicinity of San Francisco may be interested to know that, though it is swift on the surface in this region, it does not go high. Whether it goes as high as Gilderoy's kite or not, is not determined, but it has been demonstrated that Forecast Official Hammon's kites easily go higher. Mr. Hammon was kite-flying on Tuesday and he has found that the gales which constitute this city's characteristic summer winds and the air current which sweeps in through the gap in the coast range whenever the interior is hot are much smaller in vertical measurement than he or anybody else who happened to think of it at all has thought. Mr. Hammon has recently measured this current twice early in the afternoon. Once the sea breeze was found to be only 1800 feet deep; all the other time it was 2500 feet deep. This is not very deep, or, rather, very high. Tamalpais rises to 2900 feet, and Tamalpais is not a very long measuring pole when aerial exploration is considered. So the sea breezes that rush in through the Golden Gate and over the low peninsula are but surface disturbances, which San Francisco people suffer from because they are so low. If the increase in height of buildings proceeds in San Francisco as it has of late years, we may get above these winds, and then roof gardens out of the wind will enable one to be in San Francisco and not of it.

The Tuberculous Cow at Large.

In addition to the facts about the destruction of tuberculous cows given elsewhere, it may be remarked that the question is really a very broad one, and probably it will vex the Legislature next winter to settle it to the satisfaction of all concerned. The question of compensation for healthy cows, killed after false diagnosis, is one which dairymen very properly insist upon. It is too much to expect them to stand the loss for both diseased and healthy cows, for it seems to be conceded that the tuberculin test does lie sometimes. And then how is the dairyman to know whether the cows he buys to fill his dairy will stand or fall? The Oakland dairymen say what they think about the matter in the following words:

When by the mistake of the officer a healthy cow is killed it is not only the loss of the cow that we suffer, but the time, annoyance and expense of a lawsuit, as well as the trouble and expense of obtaining other cattle to replace those so condemned or killed. We are compelled frequently to replenish our stock from places at a long distance. The party who sells to us is under no obligation to submit his cattle to any tuberculin or scientific test. We are compelled to use our own judgment in the purchase of stock, unless we go the impossible expense of taking a veterinary surgeon along to make a test. Being purely local, the proposed ordinance is unfair and unjust. If it is to be applied, it should be applied indiscriminately throughout the entire State and to all dairy products

The city milk interests of Alameda county are roundly estimated at $120,000, and the owners have employed Attorney Clinton E. Dodge to represent them. They are unanimous in the declaration that if the ordinance is passed as at present framed they will carry the matter into the courts.

Pith of the Week's News.

THE State Board of Equalization has raised the total assessments of the railroads $204,704 over last year's assessments.

SMOKE from the forest fires in Washington, Oregon and British Columbia form a heavy bank along the coast for a distance of seventy-five miles out to sea. The biggest volume of smoke appears to come from British Columbia.

THE wool commission firm of W. D. Eaton & Co., of Boston, have made an assignment. The liabilities are placed at $240,000. No statement of assets has been given out. The failure is attributed to the poor condition of the wool market.

MCKINLEY is the name of a strawberry which Ellwanger & Barry, Rochester, N. Y., offer for the first time. They have tried it thoroughly on their grounds, and find it superior to any other kind, new or old—superior in size, shape, color and quality.

THE gold standard Democratic leaders have decided definitely upon a new convention to be held about September 1st in Chicago. The announcement was authoritatively made that such a course is certain unless something wholly unforeseen intervenes.

THE Navy Department some time ago ordered 100 men of the crew of the Charleston, at Mare Island, Cal., sent to the Navy Yard at Norfolk, Va., to learn the least possible time in which crews could be transferred across the continent. The men made the trip by special train in four days twenty-three hours, a record breaker.

THE second shipment of 5000 boxes of California pears and a few boxes of plums arrived in London in good order July 30. The pears fetched 5s 9d to 7s 6d, a better average throughout than the shipments of last week. The best plums realized 2s higher. There was keen competition for pears, which are still under-sized, but not so ripe as the last lot; therefore, they sold better to large buyers in the provinces.

WARRANTS for payment of sugar bounty earned in 1894, except maple sugar, payment of which was provided for in the appropriation of $5,000,000 in the deficiency act of 1895, were issued to-day. The proved claims were prorated, each claimant receiving under the $5,000,000 appropriation 84 per cent of his claim. The number and amount of beet sugar claims paid are insignificant. The total amount of the 149 warrants issued was $4,988,036.

PROBABLY the most violent hailstorm ever experienced in Nebraska occurred at Lincoln, Saturday night. Reports from country districts show it to have been much more disastrous than at first supposed. Stones of unheard-of size fell by the bushel, shattering windows and demolishing roofs. Hundreds of hogs and chickens were killed, one farmer losing sixty pigs. Orchards were stripped bare and corn crops for a strip two miles in each direction from Lincoln totally ruined.

THE Democrats have made a sweeping victory over the Populists in Alabama. The lowest estimated majority is 25,000, the highest 60,000. The Legislature is surely Democratic by at least two-thirds. Heavy Democratic gains were made in the white counties in north Alabama. In this portion Goodwin, the Populist, ran behind Kolb's vote in 1894. Populist leaders in Birmingham claim that thousands of fictitious votes were cast in the black belt and Goodwin not elected.

A COMPLETE change of policy in the method of Government prosecution of railroads in the West to recover lands erroneously patented to them is provided for in directions issued by the Secretary of the Interior to the Commissioner of the General Land Office. In this a rule is laid that all railroads against which suits are now pending for a vacation of patents under the act of May 3, 1887, shall make a showing as to the bona fide of the purchasers from the road of the lands patented, similar to the showing made in the cases of the Burlington and Missouri River & Union Pacific roads. Similar recommendations for the dismissal of suits, wherein non-bona fide purchasers may retain title will hereafter be made by the department in all these cases. The proceedings accordingly can be hereafter instituted under the act of March 2, 1896.

Personal.

In the absence of Mr. Alfred Holman, editor of the RURAL PRESS, we mention to his personal friends and to others who have learned to appreciate him through his journalistic work, a sad bereavement which has fallen upon him and his family. Mrs. Mary C. Holman, mother of Alfred Holman and Mrs. Judge W. H. Grant of Woodland, died at the home of her son in this city on August 4th, after a protracted illness. Mrs. Holman was a daughter of the late Dr. Jas. McBride, a well-known pioneer of Oregon, and her remains will be laid to rest beside her relatives at St. Helens, in that State. The sympathy of associates and friends will attend Mr. Holman on his sad errand to his old home in the North.

Gleanings.

The butter shipment from Humboldt county during last week amounted to 116,000 pounds.

Speaking of the Knight's Landing creamery, Mr. Latta says the plant is one of the most complete on the coast. The daily average of milk received is over 5000 pounds and runs nearly 4 per cent of butter fat.

Dairymen, says the Del Norte *Record*, are noticing the effect of the prolonged dry spell and report a falling off in the dairy produce, consequent on the drying up of the feed. The hay is about all in and it is hoped that a rain will come soon.

One of the Redlands fruit associations has received $999.50 for a carload of Valencia, or Hart's Tardif, oranges, recently sold. These are a late orange and though not of a bright color sell at a high price, because they can be sold when the market needs them.

Last week the large dry-house of Hatch & Rock near Biggs was destroyed by fire. Besides the drying shed, 10 sulphur houses, 6000 trays, 1000 lug boxes, 400 boxes of green fruit and about 30 sacks of sulphur were burned. The loss is about $5000. The origin of the fire is unknown.

The Healdsburg *Enterprise* says many of the orchardists will have to dry their Crawford peaches. Canners are offering from $15 to $17.50 per ton for them, and at this price not a few of the growers prefer to dry. Offers of from $26 to $30 per ton have been made for cling peaches, but few sales as yet.

The Livermore creamery commenced business March 16th, 1896. The first four months' run shows an aggregate output of 21,100 pounds of butter. When the creamery started the butter market stood at 17 cents per pound. Later in the spring it fell as low as 13½ cents, from which point it has now risen to 19½ cents, and is still going up.

Grading of the Valley road to the limits of Fresno will be finished this week. The contractors will return their teams to Stockton, making no effort to do grading either on the depot site or south of the city. The directors have made up their minds to discontinue operations until the entire question of a right-of-way through Fresno and south of it has been settled in their favor.

Superintendent Pratt of the Sutter Canning and Packing Company, says the *Independent*, is putting in a system of telephones which will connect that institution with most of the large orchards in Sutter county. This system will greatly facilitate the communication between Yuba City and the surrounding country, and will be a great feature to the fruit growers during the busy season.

The Oroville *Register* states that there is almost no ground for the statement that the proprietors of the Biggs cannery, Hickmott & Nelson, were employing Chinese and Japs at the expense of white workers who desire employment. There are a few Chinese employed in the cooking department, but that is all. The Chinese are employed in nearly every cannery in the State for this purpose. There are no Japs at work at all.

According to the Hollister *Advance*, farmers are hanging back with their hay. The warehouses, which usually at this time of the year present a busy appearance, are practically deserted. The low price of hay induces farmers to leave their produce in the stack, rather than incur the expense of baling. The amount of hay in the Hollister valley has been greatly overestimated, however. It is probable that the crop this year will be 10,000 tons less than that of 1895.

The Santa Clara Valley Poultry and Kennel Club declares that roupy chickens are for sale in open market, and after the matter had been thoroughly discussed the club appointed C. Spice a special agent to investigate the condition of the poultry on sale in San Jose and report to the Health Officer. The matter of holding a combined poultry and kennel show at the pavilion was discussed, with the result that the time of the show was set for November 18th to the 21st, inclusive.

The first car of melons was loaded Wednesday at Lodi by Samuel Ferdun and sold on the track. Telegraphic orders and bids were in from Portland, Oregon, San Francisco and San Jose, but the latter place secured the car. The *Sentinel* says the present season has not been a good one, the late frosts making replanting necessary in many instances, and the crop will be small compared with former years. The season begins two weeks later than usual. Melons will go out steadily until October.

German millet, or Hungarian grass, has not always done well in California, but the Hanford *Journal* says that George Farmer, out in the Excelsior neighborhood, brought into town some German millet which he is raising on his place for hay and pasture. The stalks were over 4 feet high and the heads are larger and contain more grain than other varieties of this fodder plant. Mr. Farmer used to grow it quite extensively in the Eastern States, and is trying it as a cattle fodder in California.

It is not always the biggest piece of land that brings the most profit—at least that is probably what J. M. Case thinks after harvesting his blackberry crop, remarks the Winchester *Recorder*. He has a berry patch three-eights of an acre in extent, from which 1142 quarts of fruit have been picked in the last four weeks, with enough still on the vines to bring the amount up to 1200 quarts. All of the berries found a ready home market at 6¼ cents a quart, and the demand was greater than the supply. This is at the rate of a $200-an-acre yield.

The Woodland *Democrat* says that George Merritt, from whom twenty-six sacks of wheat were stolen several nights ago, has been successful in recovering his property. It was concealed in another field. Wishing to capture the robbers, Mr. Merritt placed a mark on each sack and left the grain where he found it. The next morning the grain was gone, the robbers having removed it during the night. Amos Eakle has been the victim of the thieves. About twenty sacks of wheat disappeared from his place near Woodland several nights ago.

There has been hard feeling for a long time between the cattle and sheep men in Grant county, Oregon. Numberless disputes have taken place over the possession and use of the ranges, the cattle men asserting that the sheep drove the cattle from the ranges. There has been much hard talk, but until recently no bloodshed. Within the past month, however, there have been two bloody fights. It is thought probable that the authorities will now take some action to prevent a recurrence of the trouble. Three sheep men were reported to have been killed and two cattle men.

Henry Woodson, of Kern county, is in jail charged with firing the wheat stacks of John Morris. Woodson was suspected, because, it is alleged, he has the reputation of doing such things. Then he had a grudge against Morris. Close examination about the burned stacks disclosed horse tracks coming and going in the direction of Woodson's house. These tracks led to each of the burned stacks and they were freshly made, too. Further observations showed that these tracks led directly into Woodson's corral, near the house. Other suspicious circumstances were also developed.

San Bernardino county still has faith enough in the *rhizobius ventralis* to pay money for the bugs. Through advice of Commissioner Pease the Board of Supervisors made a contract for the introduction of 10,000 *rhizobii* into the orchards per month, and for June that number was sent here from Saticoy, Ventura county, at the agreed price of 1 cent each, but with July the price was advanced 50 per cent, and to keep within the appropriation the number ordered for July was 6000, which came in lots of 3000 each. The last order came in Tuesday, and the following day Mr. Pease placed them in the orchards.

The honor of getting out from San Jose the first car of dried fruit of the new crop is always sought after by shippers, and it has been known for some time that quiet work was being done among the representatives of Eastern houses preparing to ship out the first car of apricots. On August 1st C. B. Bills, Pacific coast manager of the firm of Webber, Frost & Small, loaded a large Sunset car with apricots for New York—the first carload of dried fruit of the pack of 1896. The car was one of the largest of the fine metal roof cars of the Southern Pacific Company, and the load was made up of 872 boxes, weight 24,450 pounds, consigned to Johnson & North, New York. Large, showy placards were tacked upon the sides of the car, giving shipper's name and announcing to the people along the route that this was the first car of the new pack of dried fruit from the famous Santa Clara valley.

The Agricultural College and the University.

Prof. Hilgard's Views.

The views recently expressed by Tulare Grange concerning the segregation of the College of Agriculture of the University, as noted in W. L. George Ohleyer's communication in the Rural Press, reviews a matter which was considerably discussed 20 years ago and was supposed to be settled. Such was the conclusion when the new constitution of the State was adopted, for this new organic act fixes the status of the different colleges of the University in such a way that only by an amendment of the constitution can any division or separation of any of its parts be made. Past Master J. V. Webster was a member of that Constitutional Convention, and if we remember correctly, exerted much influence in behalf of the integrity of the University.

Although it seems doubtful whether there could be any disintegration of the University, it is still interesting to discuss the matters included in the declaration by Tulare Grange, as other granges have signified their assent thereto. Although there must always be a College of Agriculture in the State University and at the State University, it is just as sure that other agricultural schools are needed and that such lower agricultural schools could bear relation to the College of Agriculture as the lower schools of letters and languages do to these Departments of the University. However this may be, it seems timely to present the views of Prof. Hilgard on the matters mooted by Tulare Grange, and these views were given by him at a meeting of the California State Grange of Stockton, though they have not hitherto appeared in print:

PROF. HILGARD'S VIEWS ON AGRICULTURAL EDUCATION.

I think we offer at Berkeley the kind of instruction most needed by our young men. We do not pretend to teach them the actual operation of plowing and hoeing by making them work; we think they either know how to do that already, or can learn it in a few days when they return to the farm. What we do teach is: why to plow and hoe at all, and how and when to do it to the best advantage. That is, we teach them the principles on which they must base all their farm work, in order to compete successfully in the hot race that is now on in agriculture, as well as in all industries, between the most remote regions of the globe. The time is past when mere hard work without the use of brain will command success. Hard work is still needed as much as ever, but it needs to be shaped so as to be done to the best possible advantage.

More Than Handicraft is Needed.—I know that some of you may differ with me on this point and think we ought to put the boys into what you would call practical work, as is done in trade schools. The trouble is that the farmer trade, unlike the carpenter's or blacksmith's, must be varied from place to place, and that sleight-of-hand is the least part of his difficulties. Soils and climates vary infinitely more than do woods or metals; it takes an educated judgment to deal with the former, and that judgment must either be acquired locally by long and costly experience, or it must be imparted by education. In the old countries, until recently, the experience of the forefathers was enough; at present, that experience has largely become worthless, on account of the keen competition of all the world, now connected by means of steam and electricity. Here in California we have not even the forefathers' experience to go upon; it is, therefore, doubly necessary that we should possess ourselves of the principles upon which we must deal with the facts as we find them in a new country.

Labor at Berkeley.—Do not for a moment imagine that actual field work is omitted from our progress because of any prejudice on the part of students against such work. On the contrary, we continually have more applications for paid work from students of all departments than we can possibly employ. A student who works his way is universally respected and applauded. There is no snobbishness at the University of California in these days.

But the fact is that students do not want to spend the time alloted them for their education on uninstructive labor if they can help it. *Instructive* labor, such as is needed to give the student a thorough understanding and some practice in actual manipulation, say, in grafting, beekeeping, etc., forms part of our courses. The time given by most of our young men to education is too short to be encroached upon by useless mechanical exercise.

Why are There Not More Students?—Why are so few students attending our agriculture course? What is the true cause of this small attendance? Is it the fault of the students, or of their fathers, or is it ours? Some say that we have made the conditions of admissions too high for the preparation that the farmers' sons are usually able to obtain. This may be true as regards what we call our "regular" course which leads to a degree; and this is as it should be, for the agricultural teacher and expert must of necessity have a good, thorough foundation for his studies, and should not otherwise have a university degree. But these requirements do not exclude any students who do *not* work for a decree; these can come in under the head of Special Students of Agriculture, and the sole condition of their admission is that they shall have sufficient preparation to profit by our instruction, and that they shall conduct themselves properly and work faithfully. There are courses enough to occupy the full time of such students for two years, and which do not require any very extended preparation, and can be taken by young men.

The Occasion for Agricultural Study.—One natural cause of the small demand for agricultural education in this State certainly lies in the freshness of our soils, which enables a poor farmer to make as good crops as a good one—discourages for the time being the use of rational methods of agriculture, so long as one is able to do without them. Yet the fact that investments in orchards and vineyards are permanent for a number of years, and bring about a one-sided wear in the soil, makes it necessary to work on rational lines sooner than is mostly done elsewhere. Horticulture requires in an eminent degree the use of knowledge and brains, and it is from horticulturists that most of our students now come.

Besides, the large area of the State and its wonderfully varied climates and soils call for the exercise of an unusual degrees of judgment and brains, the more as in a great number of cases there is no experience and precedent to go upon. It would, therefore, seem especially needful that our young men intending to be farmers should be trained to use all the resources that agricultural science places at their command, to save themselves from costly mistakes in their practice.

Farmers Send Their Sons Into the Professions.—We have been told that farmers do not send their sons because they fear they will be "educated away from the farm." But as a matter of fact a very large proportion of our university students *are* farmers' sons, and they are sent by them to other departments—literary, scientific and other professional departments—giving their own profession the go-by. It is the old story of the tendency of the rural population toward the cities, where more "fun" and (supposedly) less hard work can be had than on the farm. That is the problem all the world over—in Europe as well as here. It certainly cannot be remedied by holding the boys' nose to the grindstone, whether at home or in college; the time for such measures has gone by. It is only by elevating the farmer's pursuit to a higher plane, both intellectually and (by the aid of such associations as the Grange) socially, that the current will ever be reversed.

It is true that at many other colleges, unconnected with universities, the attendance is much more numerous than at Berkeley. But when you canvass the subsequent careers of the numerous students, you find that the great majority is found in other occupations than farming, and has resorted to the college merely to get a cheap education—not cheaper, however, than it can be had at Berkeley, and certainly not better.

Agricultural Schools Abroad.—I think it is instructive to consider what is being done in agricultural education in the old country, where long experience has been had and where competition runs high alongside of soils that have long ago been exhausted and require annual fertilization—where, therefore, the use of rational methods is doubly needful. There are on the continent usually three grades of agricultural schools. First of all, *everywhere*, the university grade, for the education of agricultural teachers and experts, and also for that of the sons of large land owners. Since the latter are numerous, and Government positions are open to a large number of agricultural experts; and since also the agricultural schools of the second grade, as well as the experiment stations, are numerous, the university grade schools are well attended. At the Agricultural College of Prussia at Berlin there were 400 at the time of my visit.

The secondary agricultural schools are of the high-school grade, but not connected with these. Their course is of about two years; they are attended by the sons of the smaller landlords, and their course is quite elementary and is largely devoted to the elucidation of topics interesting directly the immediate region in which the school is located. It is not pre-

tended that agricultural experts are to be turned out of these schools, but simply good farmers. As yet this class of schools is not nearly as numerous as it should be.

The primary grade of agricultural schools merely intends to give to peasants and their sons correct ideas of agricultural practice, and is altogether adapted to local needs; such as dairying in dairy districts, horticulture in fruit-growing regions, viticulture in grape-growing counties, etc. These schools are frequently only winter schools, giving instructions for a few months, when the cessation of field labor gives time to the peasantry to attend. They are not usually connected with the public schools.

In France this is otherwise; there the instruction in agriculture is officially connected with the several grades of public schools in the rural districts, concurrently with trade schools in the cities. But as yet this system is not as fully developed as is that of Germany and Belgium.

Relations of the Different Agriculture Schools.—You perceive that the necessity of several grades of agricultural schools is distinctly recognized in both systems; and at the head of each stands the University school, since without this teachers for the lower grades could not be formed. But naturally the latter cannot aim to educate the mass of farmers any more than the other departments of the university can educate the population of the whole State. That is physically impossible in either case. There must be graded schools in all departments of knowledge, for otherwise it is impracticable to carry instructions near enough to the doors of the population.

Yet something of this kind is attempted in Europe as it is with us, in the form of "farmers' institutes." The "wandering teacher" is an important factor in interesting the population in agricultural education, in Europe as well as here; and he is also charged with supervising and stimulating the lower-grade schools.

But clearly, no practical organization of an agricultural college, here or elsewhere, can provide for the education of the masses. The masses cannot travel to it, nor can the college be perpetually on wheels; were it to do so it would so scatter its work as to make no permanent impression anywhere.

The agricultural school of university grade is the first need, especially in a new country where the best resources of science are required to study and conform to new conditions. It must educate the teachers, the leaders of progress, and the experts, and educate these thoroughly. But no single institution can usefully reach the masses and effect in agricultural instruction what cannot be effected in other branches of knowledge.

How to Get Good Roads.

To the Editor:—At the monthly meeting of the Horticultural Society at Santa Rosa, a member, Mr. C. W. Otis, read a paper on "How to Get Good Roads," which was in part as follows:

The great difficulty these times of a money panic is to raise the tax for road building in the present way, which is first to pay the assessed amount to the county treasury which is afterward drawn out and largely paid, perhaps to the very ones for labor on roads who found it so difficult to first get the money before it could be earned.

Suppose these conditions be reversed and the taxpayer be allowed to earn the tax before he has to pay it, the problem would be very simple. If Jones' tax is $36 and he is allowed to work 12 days with his team as $3 per day and take his receipt for labor and so settle his tax, the whole thing is simplified and the problem of raising taxes made easy, and nothing prevents road building at once regardless of hard times—in fact, the money stringency will not in the least disturb our road making.

Suppose any county desiring extensive road building should issue a road bond or road tax certificate as follows:

This Tax Certificate will be received by the County of —— in payment for taxes due the County to the amount of $——.

Let these be engraved in denominations of from 50 cents, $1, $3, $5 and $10 to protect against counterfeiters, and issued on labor for roads. As 90 per cent of the cost of roads is labor, there would be no objection to working out road tax under proper superintendence and a civil engineer. The rock crusher, lumber and roller could be purchased by money which many would pay as readily as work.

This seems to be briefly a solution of the question this society has under consideration, "Good roads and how to get them."

Let others through the State take up and mature the scheme and a new era will dawn upon the State, not only as to good roads but to general prosperity resulting from the employment of thousands of workers and the general circulation of these tax certificates, which no one would refuse to take to the amount of his county taxes. Cor.

Santa Rosa, Aug. 3, '96.

The annual fair of the Sonoma and Marin Agricultural Society is in progress this week, with a greater throng of visitors than has been usual for several years.

THE FIELD.

The Warfare Against Destructive Animals.

W. M. Bristol, of East Highlands, writes entertainingly for the *Rural Californian* on the warfare against wild animals which prey upon the sheepfold and poultry yard:

The Coyote Bounty.—The story of the Coyote Bounty Act reads like a comedy of errors. Five years ago the California Legislature ordained that for every coyote slain within its boundaries the State should pay a bounty of $5. The measure proved unhealthful for the coyote but nearly bankrupted the State treasury. Just how many coyotes from other States and Territories came to California and died immediately after crossing the line will never be known. This extravagant price for scalps was a virile premium on fraud. Two years later the bounty was reduced one-half, and a year ago the law was repealed. While in force it accomplished a good work in ridding the State not only of the howling marauder, but of foxes and wild cats as well—"varmints" whose only use lies in catching an occasional rabbit while they are setting at naught the profits of poultry raising.

Had the bounty been fixed and maintained at one dollar, it would have been a wise and efficient statute. Since its collapse there has been a marked increase in the pests, and their nocturnal serenades ring out with their old-time impertinence. Henceforth it will be a hand-to-hand conflict all along the line where the farmer borders on the brush.

Trapping the Marauder.—Years ago, I preempted a tract of land at the gable end of the East Highlands mesa, in San Bernardino county, which a facetious friend christened the "Way-up Ranch." Immediately after installing a flock of chickens I found that the neighboring foothills were alive with guerillas—coyotes, foxes and wild cats—and the fight at once began. The fox has long been the symbol of slyness, but he has not mastered the rudimentary tactics of the coyote. The Crusoe post behind my cabin had notches for 19 foxes before a single coyote put his foot in one of my steel traps. The wild cat lays no claim to shrewdness. All wild animals, like man, prefer to travel a good road or path if it leads in the desired direction. Knowing this, I made a system of trails centering at the ranch, and posted a double-spring trap at the most commanding point on each. At the end of two years the post chronicled the deaths of 55 pilferers of the three kinds mentioned.

The Trap and the Bait.—Success in trapping depends upon the care used in arranging the trap and bait. If the tree or sapling is growing at the desired point, a post must be set beside the trail to afford secure anchorage for the trap. A piece of tough beef is wired to a post a couple of feet from the ground and the trap set beneath it. A pile of brush behind and at the sides of the post will compel the prowler to approach the bait via the trap, the latter being carefully concealed by leaves or grass. Small bits of meat strewn along the trail in each direction attract his attention, whet his appetite, and throw him off his guard so that he straightway walks up into the main bait and into the trap.

Some amusing incidents occurred in connection with my trapping. The first thing caught was the hind foot of a fox. One morning, three weeks later, I found the remainder of him—caught by the other hind foot. His affliction was now two-fold, but I cured him—with saltpetre, alum and salt. Happenings of this kind do not confirm the stories of Reynard's cunning.

Curing the Skins.—A collection of well tanned furs is very attractive. The process of tanning is simple. Immediately after removal, a mixture of saltpetre, alum and salt (equal parts) finely ground is applied to the inside of the skin. It is then rolled tightly in a paper and laid away for a week to pickle, after which it is drawn back and forth across the edge of a board until it is dry and soft—that is all.

A Coyote With a Bell.—It is a common belief that wild animals rarely leave the locality where they are born and reared. To test this, I set at liberty a captured coyote with a bell securely attached to his neck. For six weeks he patrolled the East Highland mesa, but was not heard elsewhere. For six weeks the tintinabulation of the bell by night told the merry sharp was abroad and caused disturbed sleepers to ask themselves if the chicken house was shut. Did the bell interfere with the practice of his profession? Oh, no, for his prey supposed him a lamb who was really a wolf in sheep's clothing. The charm of some musical instruments is enhanced by a bell accompaniment, but it was new to the coyote. It was alleged that he was even more brazen than before. There was no marksman on the mesa who could shoot by ear in the dark, but one morning he tarried too long on his beat and died from an overdose of buckshot. At last the bell had tinkled a telltale knell, but it was not tolled for him, the dead of his tribe being more highly esteemed than the living.

Things at East Highland are different now. The brush is gone and, excepting a few patches, the mesa is a solid orchard, producing oranges unsurpassed in quality and golden beauty.

On the Squirrel Pest.

To the Editor:—We have entirely wiped out the pests from our bottom lands by using Wheeler's bisulphide of carbon during the rainy season and putting out freshly mixed grain poisons during the summer and fall months. We use wheat and then barley, as the old squirrels become shy when the same style of poison is given more than once or twice at most. A very important point is to get *good* poison, put it out freshly mixed and at daylight in the morning before the squirrels come out. Scatter the grain well so that stock will not pick it up. An old squirrel will never touch a spoonful of poisoned grain put down carefully in a pile in front of the hole. In our orchard and grain fields we poisoned with Wheeler's bisulphide of carbon and stopped up all the holes amounting to exactly 600 in number and carefully watched the result, going over the entire ground once in two days. On first inspection we found three holes open and poisoned them the second time with Wheeler's poison. On the second inspection we found one of those three open and gave it an extra dose. Two days later the same hole was open with a very sickly looking squirrel sitting over it. Looking about, we found an air-hole on the bank of a creek fifty yards away. That solved the mystery. We plugged the air-hole up well and gave another extra strong dose, which ended the job We visited all the holes every two days for some time and none ever opened, so we are ready to stand up for Wheeler's carbon bisulphide. Our method of putting out the poison was original, and to any who wish a cheap and effective recipe we would gladly offer our experience. The greatest drawback is the neighbor who will not poison, and we fight the pests away over the line, scattering poisoned grain in the trails and along the line fences.

Poisoning squirrels is like washing dishes. You must keep it up or the dirty things will accumulate. Few men seem to realize how much produce and grass is destroyed during the season by these little animals. Canfield Bros.

San Juan Valley.

Eastern Fruit Crops.

The report of the statistican of the Department of Agriculture, dated July 11th, gives the following statement of the apple and peach crops:

Apples.—The condition of this fruit declined from 81 to 64.6 during June. Prospects for excellent crops still continue in New England, New York, Pennsylvania, Michigan and Iowa. Conditions are also very fair in Nebraska and several of the Mountain States. In other parts of the country the condition of the crop is far below the average, being lowest in the Atlantic Coast States, where percentages are generally below 50. In the Ohio valley and certain of the Western States not yet referred to the figures are somewhat higher, but nowhere above 67, which is the percentage return for Illinois and Missouri.

Peaches.—Taking the country at large, the peach crop promises to be one of medium proportions. During the past month a fall of 12.9 points has taken place, leaving the general average now 51.8. Good crops are expected in Delaware, Maryland, Ohio, Michigan, Illinois, Indiana, Kentucky, Missouri and Kansas. The crop has suffered considerably in California, as is shown by a condition of 75, which is lower than any July condition in that State since 1890. In New Jersey the fruit is falling badly, and the condition with it. The Connecticut and New York orchards promise very little fruit, and in Pennsylvania condition is no better than in contiguous New Jersey, standing at 52.

A Bad Honey Year at the South.

Ellen C. Brand of San Fernando writes to the *American Bee Journal* rather discouragingly.

The bee business has a gloomy outlook—dry year—hardly enough honey to keep the bees alive. Some of us have been so unfortunate as to import bee paralysis through those fine golden queens from Eastern breeders. My advice to bee keepers is, Don't buy queens unless you first have the certain knowledge that the man you buy of has not, and never has had, bee paralysis amongst his bees. I never heard of the disease in California until those lovely yellow bees were imported.

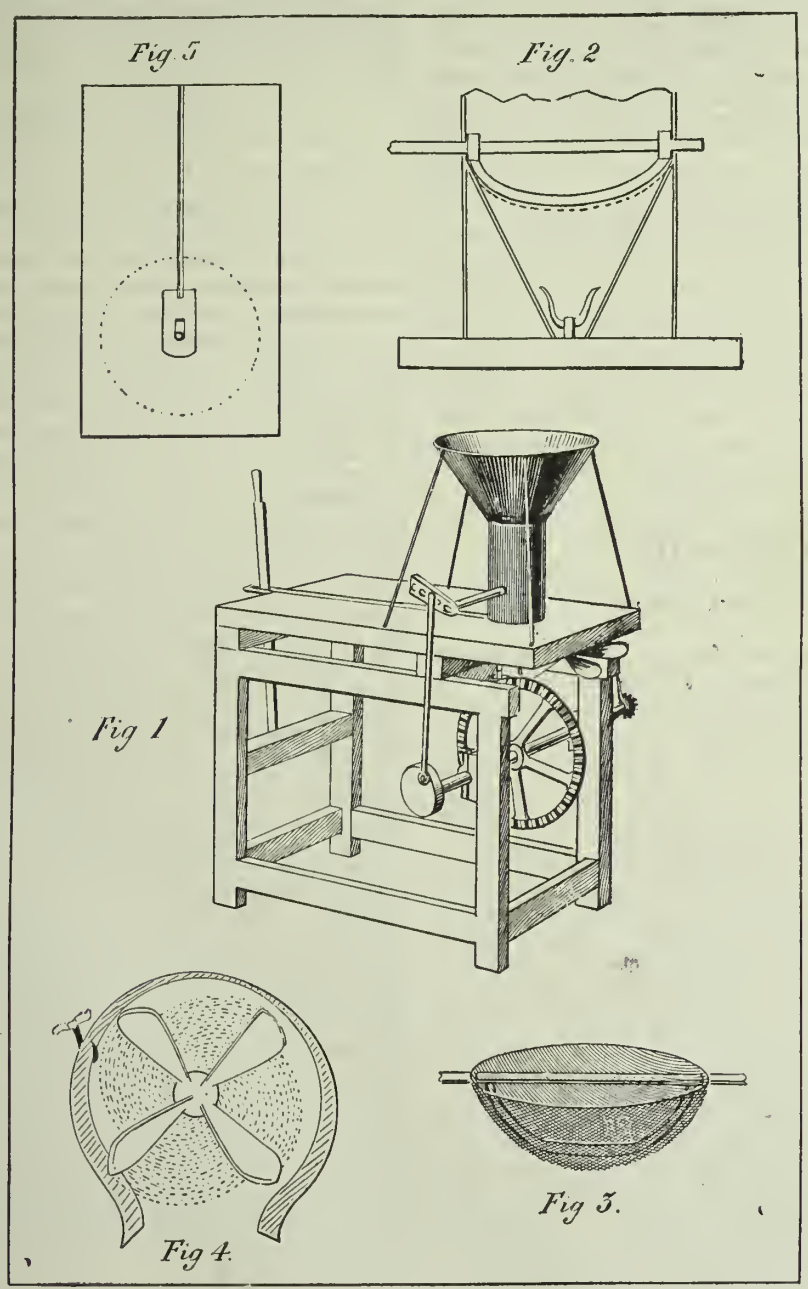
The advice is good so far as patronizing careful breeders is concerned. It is just as important to get bees free from contagious disease as it is in purchasing improved breeds of the larger animals. We ought to have our own local supplies of all improved bees so that one could know better the stock he is selecting from.

It is stated that the Pope is confined to his apartments by an attack of rheumatism. His condition, say his physicians, is not serious, but rest has been ordered.

HORTICULTURE.

Sulphuring for Red Spider.

In answer to inquiries about the way to arrange a barley seeder for wide distribution of sulphur through trees infested with red spider, we give herewith an engraving prepared by B. M. Lelong, secretary of the State Board of Horticulture, to show the device made by Geo. W. Ditzler, and largely used in the Hatch & Rock orchards in Butte county. He so constructed a broadcast seeder that it distributes the sulphur in a dense cloud through from three to six rows of trees in the time necessary to drive through. The sulphur is thrown in one direction and is applied in the morning when the leaves are damp. An almond orchard that was treated by Mr. Ditzler in this manner for the past two seasons has retained the leaves until late in the fall, whereas other orchards in the same district not sulphured dropped their leaves in August and September.



DITZLER'S ARRANGEMENT OF BARLEY SEEDER TO SULPHUR ORCHARDS.

The whole of the great Rio Bonito orchard of 1650 acres had been finely dusted with sulphur during the last few years, and with the best results. That this treatment had been of great value to the orchard was made manifest by the fact that trees across the road and not sulphured had been seriously delayed in their development by the ravages of the spider. The sulphur dust adheres better to the trees if first sprayed with water or if the dusting were done in the early morning before the dew was dissipated. Any time after the leaves are out, and the bugs are there, is a good time to apply the sulphur, and at least three applications in the summer are desirable. With this machine method of applying sulphur it has been found best to apply the sulphur when a light wind was blowing, as it bore the dust in a cloud among the trees. When there was no wind, much of it settled to the ground and was lost. With the Ditzler device, sulphur goes much further than by the old hand method.

The engraving on this page shows the sulphur caster made of a barley seeder. The arrangement is very simple. The seed sowers can be bought from any dealer in agricultural implements. Changing the top to correspoud with illustration is all that is required. The engraving shows: Fig. 1, machine complete; Fig. 2, position of screen agitator and funnel; Fig. 3, screen; Fig. 4, movable disk to regulate direction of cast of sulphur; Fig. 5, slide to regulate quantity of sulphur.

We trust this account will aid RURAL readers who desire to scatter sulphur on a large scale.

More About the Bordeaux Mixture.

We gave recently the latest advices about preparing the Bordeaux mixture on a large scale. The importance of this fungicide at the present time outranks that of insecticides in our orchard practice because our chief foes now seem to be the fungi. A matter of considerable importance is now brought out in the *Rural New Yorker* by E. G. Lodeman, of Cornell University, showing exactly the advantage of freshly made copper lime.

The age of Bordeaux mixture has much to do with the uniformity of its application. This fact has frequently been noticed, but the rate and the duration of the changes that take place in the mixture do not appear to have been determined. The recommendation has, nevertheless, been made that only the fresh mixture should be used; yet the reason for this advice has not always been made clear. The following experiment shows at least one cause for the superiority of the freshly prepared fungicide; and the results are sufficiently emphatic to show clearly that the use of the old mixture is unadvisable in the majority of cases, especially where the best machinery is not employed. The proper agitation of the Bordeaux mixture is one of the most serious problems connected with its application; yet there is a period in which the inconvenience from this source is reduced to a minimum. Of course, the use of the mixture at this time is highly desirable.

An Experiment.—A dilute solution of copper sulphate was placed in a quart fruit jar and to this was added the milk of lime until a slight excess had been used. The Bordeaux mixture thus formed was, therefore, similar to that which is commonly used in spraying. The color was fairly dark blue, and the strength of the mixture was slightly less than that of the normal preparation, the copper sulphate being used at the rate of one pound to ten gallons of the mixture. The can was so placed that the height of the sediment could easily be measured. At the end of every 24 hours, the can was shaken thoroughly and then allowed to stand undisturbed for another day. The depth of the blue sediment could be seen very plainly so that no difficulty was experienced in taking the measurements.

The following table represents the rate of settling as shown by observations made at definite intervals:

Time of Observation After shaking.	Amount of Settling in Inches. 1st day.	2nd day.	3d day.	4th day.	5th day.
7 min.....	1-12	2-12	1 2-12	2½	2 11-12
15 min	2-12	3-12	2	2 8-12	3
1 hour 10 min.....	6-12	10-12	2 8-12	3	3
3 hours 30 min	1 7-12	1 10-12	2 11-12	3	3
4 hours 45 min.....	1 10-12	2 1-12	3	3	3
14 hours 30 min.....	2 4-12	2 8-12	3	3	3 1-12
24 hours.....	2 5-12	2 10-12	3	3	3 1-12

Comment upon this table is scarcely necessary. It may, however, be said that during the first 24 hours following the preparation of the Bordeaux mixture the sediment settled to a point nearly as low as that reached after a few days. The most rapid precipitation took place during the first five hours. The rate of settling during the second 24 hours was somewhat faster than during the first, especially during the first two hours: after this the differences were comparatively slight, although the sediment eventually sank five-twelfths of an inch lower. During the third, fourth and fifth days, the sediment fell rapidly. On the third day, after one hour and ten minutes, the sediment was lower than the lowest point reached during the first 24 hours; an equal fall took place on the fourth day during the first 15 minutes, while on the fifth day the sediment had dropped to a still lower point in seven minutes.

Reason for Difference.—This rapid change in the rate of settling of the sediment in the Bordeaux mixture is probably not due to any chemical change in the preparation, but it may more naturally be ascribed to a change in the physical nature. The sediment, which is at first more light and flocculent, seems to become gradually more compressed and, therefore, sinks more rapidly through the water. No change seems to take place in the color of the mixture, and the only apparent result of the standing was the change in the rate at which the sediment settled to the bottom of the jar.

The above result has an important practical bearing. Since the sediment contained in the Bordeaux mixture settles but little during the first two hours after the preparation of the fungicide, it is evident that at this time the mixture must be most uniformly applied with the least amount of agitation. The milk of lime should, of course, be as fine as possible, and the coarser particles be rejected, either by straining or by allowing them to settle before the milk is used. Comparatively little agitation is necessary under these circumstances; but, if the attempt be made to apply old Bordeaux mixture, the apparatus for stirring the mixture should be of the best, although it is scarcely necessary to put a steamboat propeller inside the barrel, and then revolve the former rapidly by means of an engine, as has recently been done.

The Logan Berry.

What Eastern observers say about our new California fruit, the Logan berry, is of much local interest. L. F. Kinney of the Rhode Island Experiment Station writes to the *Rural New Yorker* that it is a thing worthy of note nowadays to find a new type of small fruit that actually bears berries which have a value; but the Logan berry appears to have this distinction. The plants are robust, and exhibit a curious intermingling of the peculiarities of the raspberry and the dewberry. The fruit is neither, but it is intermediate. It has the color, and in a mild form, the flavor of the raspberry, but the size and structure of the dewberry, and when cooked with sugar, makes an excellent sauce. I have observed the Logan berry only under cultivation, the canes covered with earth in winter and supported on a wire trellis during the fruiting season. Under such conditions, it has proved prolific, the large berries ripening in advance of Cuthbert raspberries.

Pruning the Silver Prune.

Brother Brainard of San Jose is making a special study of the farming of the silver prune, and we recently gave a short sermon thereon from his pen. Now for fear there may be some misunderstanding about it we have the following re-statement in the *Tree and Vine:* Perhaps we did not express ourselves with entire clearness on this subject in a late issue. We advise a severe cutting back in trees that have been neglected, although this will cause a partial loss of crop for one year. The tree requires a summer pruning also, a pinching back of tips of limbs, and heading back of strong terminal growths to induce the proper filling up of the center of the tree. The dying back of stubs in heavy pruning sometimes results, but there need be no large limb to cut if the center growth is kept vigorous by restraining the outer growth. It is really a difficult tree to manage.

FLORIST AND GARDENER.

Our Mariposa Lilies in England.

Every Californian reads with pride of the esteem in which our lovely wild flowers are held abroad, and is interested in knowing the ways in which skilled gardeners in distant countries succeed in doing what all Californians have not yet learned how to do, and that is to successfully transfer these wild beauties to the home garden. In the London *Garden* of July 18th there is an exceedingly interesting article in this line by E. Jenkins of Hampton Hill.

The Calochorti.—It would be difficult to name a more interesting and beautiful group of summer-flowering bulbous plants. Quaint and picturesque in some instances and indescribably beautiful in others, it is no small wonder that the flowers should attract attention. During the past few weeks there have been given ample opportunities of seeing and admiring these flowers to the full by reason of the truly remarkable series that have been staged by the Messrs. Wallace of Colchester at the fortnightly meetings of the R. H. S. At the meeting of the 23rd ult., however, the Messrs. Wallace appear to have eclipsed all their previous efforts in exhibiting these Calochorti by the very extensive and varied assortment then staged; indeed, as an exhibit mainly comprised of these flowers it may be regarded as unique, and deservedly so, for the many charming things that may have been selected in the group. Apart, also, from the exhibit as a whole, one item of especial interest could not be passed unnoticed by those having a fondness for hardy plants, and this was the remarkable variety to be found in what is now recognized as the Eldorado strain of these flowers. The infinite variety to be found in this group is the surest evidence of their free seeding properties, an item of considerable interest to all lovers of hardy flowers, particularly to such as dwell in favored localities and where seedlings may be grown with the greatest ease.

New Seedlings.—To give a long list of names to these beautiful flowers would, I think, be a mistake, and even to select and name what may be regarded as the best is open to doubt, because the best of today may be made inferior by the things to come; and if—as we may judge by the group at the Drill Hall last week—scarcely any two flowers are exactly alike, the naming would be an endless task. Even at the present time we have many beautiful and rare combinations in the colors of this section that include purple of a rich velvet-like luster, others with reddish purple flowers, gold-blotched flowers, and, again, gold blotches on white and deep purple grounds. Regarded as a whole, this is a wonderful strain, unique in the large size of the flowers as well as the peculiar blendings of color noticeable in so many varieties, though perhaps more so in the red-pink shades, and also those of salmony hue. Equally valuable, though not quite so remarkable for the infinite variety, are the varieties included in the venustus group, while as cut flowers they are among the most charming things that could possibly be grown. Conspicuous among these is citrinus, a handsome flower of a clear and rather deep canary-yellow, and blotches and pencilings of brown on the petals. In a cut state this is a most charming thing, particularly so for large vases, where the thin, wiry stems are especially useful and give ample support to the most elegant of beautiful flowers. Roseus is another charming flower with partially descriptive name. It is one of the earliest of the varieties of venustus, and therefore valuable on that score alone. Vesta is another chaste flower and one of the largest size; indeed, the vigor of this kind is quite remarkable. The petals of this vary from cream-white to rose-white, while the base is marked in the most fantastic way with yellow and mahogany-brown. Vesta albusis is a lovely white flower, slightly stained at the base. Venustus oculatus is a remarkable flower, conspicuous by the dark blotch, which is inserted, so to speak, on the white petals, the blotch being again margined irregularly with yellow, and the base tinted or stained in a way defying description. This variety is very large and one of the most freely flowered, while other noteworthy kinds are sanguineus and purpurascens, the latter very delicate in flowering.

Gunisoni, a fine species from Colorado, is very distinct in its petals of pure white, with green base, the beard being studded with gold, giving it a handsome appearance internally. Of rather novel shade, though perhaps less desirable, is splendens atroviolaceus, in which the mauve-violet blossoms appear very distinct among the other members of this lovely race, and the same may be said of C. nitidus, with mauve, white shaded flowers and a huge indigo-blue blotch on each petal. Internally this is rendered distinct from all by the hairy appendages and cobweb-like filaments seen on the petals, and again this is very distinct from the rest by the flowers being supported in a distinct umbel, often six to a dozen blooms in each. These are, of course, but a unit of the many fine things to be found among these plants.

Cultivation.—The primary points necessary to insure success are a position which is sunny, well drained and warm, and if heavy soil exist this must be lightened by the addition of leaf soil, sharp sand or cocoanut fiber, and even peat, the aim being, so far as soil is concerned, to secure one light and warm and, above all, having perfect drainage. The latter, perhaps, is the most absolutely essential condition to growing these delightful flowers with perfect and complete success, and after flowering to give a season of complete rest. One of the most fatal enemies is being water-logged in winter time, but for this there is a simple remedy at the disposal of all. Those who have sunny borders or sloping banks on sandy or gravelly soils will have but little to fear in the matter of excessive wet, but those on heavy, retentive soils must of necessity employ different methods. In the matter of planting the Messrs. Wallace, who grow these things so well, restrict the season from September to November, not later, but many amateurs will be glad to know that by keeping the bulbs in dry soil and sand I have planted as late as the middle of February with perfect success. The soil I had to deal with was of an exceedingly close, retentive nature, and having previously lost rather heavily by autumn planting in prepared soil, I determined risking the bulbs out of ground till the worst weather had gone. This experiment was a most useful and valuable lesson, since which I have always treated them in this way. And when it is considered that these things do not bloom till midsummer, it will at a glance be seen that by February planting there is still a fair season for growth prior to flowering time. The chief difference between autumn planting and that just named is that slightly earlier flowering is obtained from autumn planting, but this in many localities and a wet winter would be followed by many losses that may be avoided by planting in February. During the winter, however, the bulbs must be kept on a dry shelf, secure from frost in sand and soil. In this way the bulbs will remain quite fresh and plump, and give but little anxiety to the cultivator.

THE DAIRY.

Roquefort Cheese.

Roquefort cheese, says the Rev. S. Baring Gould, in his work, "The Deserts of Southern France," is made either exclusively of ewe's milk, or of ewe's milk and goat's milk combined. If even a little cow's milk were mixed with it, the peculiar character of this cheese would be lost. The milk is passed through a colander, and then allowed to stand. After that it is put into great copper vessels and is subjected to pressure till it coagulates and the whey is squeezed out. It takes about 100 pounds of milk to make a small spoonful of curd. When the curd is sufficiently compressed it is given to women to stir with their hands for three-quarters of an hour. Then it is subjected to pressure again, and the rest of the whey is drawn off. Next the whey is placed in boxes pierced with holes and allowed to drain. At the end of three hours the cheese is withdrawn from these cases, and is bound up into shape by means of bands of linen. Then it is taken to the drying place, where it is turned several times a day till covered with a crust, which allows of the cheese being handled without breaking. This operation, which lasts from six to twelve days, is the last to which the cheese is subjected in the dairy. In this condition it is sent to Roquefort. There it is put away in vaults, natural and artificial. Roquefort is a singular village or small town, built on the side of a limestone rock or mountain that is literally honeycombed or riddled through and through with cellars for cheese.

Many of these are natural, and many are natural caves that have been enlarged artificially. The mountain is called Combalon. On the south side it is quite precipitous. The natural caves number twenty-three, and there are thirty-four in all. The rocks in parts of the town lean over the street, and so close as to contract the way to the smallest possible limits. It is a quaintly picturesque place. Its whole business is connected with the cheese trade, and indeed a savor—not savory—of cheese pervades the place. Some of the cellars are in stories superposed. Within are shelves covered with straw, on which the cheeses are ranged on their sides. The rock is perfectly dry, but, in a southwest wind, water trickles down the sides, due to the condensation of moisture in the air on the ever cold rocks. The temperature in the caves is always much the same. It is in these cellars that the cheese acquires its peculiar flavor, or rather maturity. Formerly they were kept for months in the rocky vaults and leisurely developed the blue mould that is so much appreciated. But now the manufacture of the cheese has fallen into the hands of companies; and these being impatient of so lengthy a process, and being eager for a rapid return, contrive to blow breadcrumbs into the curd, and the breadcrumbs become mildewed rapidly, and give to the cheese the appearance, if not the flavor, of old blue mould.

But the treatment of the cheese is not yet complete. After they have been brought into the natural cellars of Roquefort, salt is crumbled over them and rubbed in during two or three days. Then more is put on them, and this also is rubbed in. When thoroughly salted, they are scraped until the outer skin is removed, and of this round cheeses are made, called boles of rubarbes, that are intensely salt. Next the cheeses are laid out on shelves apart. In a fortnight they are covered with a growth of white mould, which is removed. A second fortnight produces another similar crop, which is also brushed off. Then they are tested if ripe. Formerly it took from two to three months to ripen them; now they are ripened and sold off quicker. The milk from which these cheeses are made nearly all comes from the immense Causse of Larrac. The production of Roquefort cheese puts eight million francs in circulation every year. The population of the place is about 1300, but the cheeses sold as Roquefort do not all come from thence; they are manufactured also at Cornus, Laudrie, Saint Paul, Corps, Bourquet and many other villages. The hides of the sheep go to Millan and Meyrueis for glove making, while the flesh is the poorest and most flavorless stuff imaginable.

The Hot Iron Test.

The hot iron test, says Dr. S. M. Babcock, which is used by all cheese makers to determine the condition of curds, is made by touching a lump of curd, from which the whey has been removed as much as possible by pressing in the hand, to a piece of iron heated to nearly redness. Under certain conditions curd will adhere to this iron, and when pulled away will be drawn out in fine threads. The length of these threads is supposed to be proportional to the acidity of the curd, and is taken as a measure of this; hence curds are said to have one-fourth or one inch of acid, according as the threads are one-fourth or one-inch long. A large number of tests of acidity in connection with hot iron tests have shown that no definite relation exists between them, although it may be said that long strings are usually associated with high acid. It may be clearly shown that the length of the string is not alone dependent upon the amount of acid present by adding a little borax, phosphate of soda, or even bicarbonate of soda, all of which have an alkaline reaction, to sweet curds, which do not adhere to the hot iron, when they will be found to string as perfectly as if acid was developed. Moreover, curds precipitated by the natural development of lactic acid in milk do not always string. It appears from this that the hot iron test indicates not the degree of acidity, but a condition of the curd, which may be brought about in a variety of ways. Our observations show that any re-agent, whether acid or alkaline, which has a slight solvent action upon casein, will cause curd to string upon a hot iron. The effect of such a re-agent is to convert the curd into a more or less plastic condition, in which the particles adhere readily to each other. Such curds when piled will flatten and assume the meaty texture desired in the Cheddar process before they are put to press. The cheese will also close up well and show few mechanical holes. There are present in most milks a variety of organisms capable of converting curd into this condition; usually the lactic forms predominate, but often others which have a peptonizing or digestive action on the casein have considerable influence. It is evident from this that the determination of acid can never replace the hot iron test in practical cheese making, as it often fails to show that condition of curd essential to a fine texture cheese.

THE POULTRY YARD.

How a Beginner Laid in a Stock of Roup.

Probably more zealous beginners go out of the poultry business by the roup route than by any other exit. A. T. Morrison, of Jamacha, San Diego Co., tells the *Poultry Tribune* how he escaped this fate and how others can escape it if they will do as he tells them. He began near Del Mar, in the county named, with three dozen barred Plymouth Rocks, and went at it "hammer and tongs" to raise a lot of chicks, of which during March and April he got out over 300.

The Surroundings.—The hen houses where the hens roosted with the chicks had no battens over the cracks; there were holes in the roof; the floor inside was of dirt, and had been scraped out until it was lower than the ground outside. The rain beat in, and, perhaps you have noticed it, a hen and her brood always get in the corner or against the side of the building, and, of course, get the dampness and draughts, if any. Well, the inside of the hen house was damp and cold. We were jubilant over our success so far, and were beating our neighbors "all holler" in the chicken business. But alas! our largest young chicks got the "big head," and it didn't seem to agree with them. Then the whole lot of chicks got it!—it was the roup, and about as bad as it ever gets to be! I remember one morning of

gathering up twenty-one chicks, the most of which were dead; the others were relieved with the hatchet. This was not "the last straw," etc., but it was about the last of that 300 chicks, and the hen fever was leaving us in chunks. People told us that the Plymouth Rocks did not do well in this climate and—we agreed with them. But we have since found out that the trouble was not with the fowls, for they were doing their level best, and, if they had been furnished dry, warm quarters, would not have had the roup.

The Improvement.—Whether you keep a few fowls or many, provide them with a comfortable house. Have the floors dirt and six inches higher inside than out. Put in dropping boards 10 inches under roosts, cover with dry earth, rake off the droppings every morning, and, as often as necessary, put on more dry dirt—renew once a week, anyway. Have the roosts 2x3 or 2x4, broadside up. Plane the roosts on all sides. Make them movable. Use kerosene on them to keep down lice and mites. Provide a dust bath. Give fresh, clean water in a clean vessel. In this climate feed the hens wheat if you want eggs—corn is too fattening, although a feed of corn occasionally will be good for them. Provide plenty of green stuff, such as alfalfa, cabbage and lettuce. Feed green cut bone, oyster shells and broken dishes for grit. Keep down lice and mites, and you will seldom ever have a sick fowl.

Bantams for Real Use.

People are prone to look upon bantams only as pet stock; they may be much more. A correspondent of the *Poultry Tribune* claims that there is no variety or breed of fowls that will yield better returns for the space they occupy or the food they consume than will almost any of the Standard varieties of bantams, particularly if eggs for family use are what is desired. They can be kept in a back yard of a crowded city lot, where it would be impossible to keep any of the larger breeds, with a dry goods box for a house, and a small wire-covered yard, fed on the scraps from the table and a little grain, a handful of grass each day, and a family of six or eight be perfectly happy, and in return furnish eggs for culinary purposes for a good sized family.

Varieties.—None of larger breeds, perhaps barring the white faced black Spanish, lay as large an egg in proportion to the size of the fowl as do almost any of our bantams. The Cochin bantams are easily confined, as are also the Polish bantams; the latter, on account of their not being able to see above them, as their crests obstruct their sight, to an extent. Both of these varieties are fair layers. All of the Game bantams are good layers, while the Sebrights are extra layers. For table use the carcass is small, but plump, fiue grained, fine flavored, and a choice morsel. So much for the practical part of bantams.

Fancy Breeding.—However, there is another point, too much of which cannot be said in praise of the bantams. It is the fancier's standpoint to which we have reference. You love animals, or birds, something that has life, or you wish something to draw your mind off of busy cares; somethiug you can lose yourself in, so to speak; something to interest you. Well, just try a trio of some breed of bants, the kind that you fancy most, buy a Standard and study Standard requiremeuts; undertake to study out the problem of how to mate and breed, and raise a bird to score 100 honest points, and my word for it you will have plenty to think of, plenty to really interest you, and if you really do make improvements on the birds you raise, something that will cause you pride and satisfaction, your interest will not abate, but increase; and when you are out of office, store or shop, the mother, sister or wife will know just where to look for you—out in the yard or hen house, looking at and caring for the bantams. You succeed; you prove you have the gift or insight to mate and breed them scientifically, aud raise some choice birds, then you can easily realize something more than pleasure, or the physical and mental profit it has already been to you, as they will profit you in a financial way, good specimens of any of the breeds selling readily at good prices, while extra good ones bring extra long prices.

One word of caution: If you ever decide to try your hand at the business, in the start buy the *very best* you can or you will always be behind "that other fellow," who is just as scientific as you are.

Two Points on Duck Culture.

Duck raising is something that ninety-nine out of every one hundred farmers know little about. Many of them have a few common puddle ducks that eke out a scant living on what they can pick up out of the feed thrown to the chickens, which, while it may be abundant, is of such a kind and in such a condition that the poor ducks almost starve amid plenty. In six months they are sent to market. If not big enough or fat enough they are surely old enough. If the right breed of ducks was raised and fed on the proper food, the profits over broilers and chicks would compare like this: To-day I sold young Pekin ducks in this market at 15 cents per pound, live weight. They were nine weeks old, and weighed about nine pounds to the pair, bringing 67½ cents each. The feed bills show a cost of about 3 cents per pound of ducks to bring them up to this condition. I also sold broilers to-day weighing nineteen pounds per dozen at 13 cents per pound, the chicks being just the age of the ducks—nine weeks. One duck weighed as much as three chicks and sold for 2 cents more per pound. Of course the chicks consume less food, but the mortality is greater, and the labor in keeping ahead of lice, vermin and disease among them is much greater. If there is any other fowl or animal raised on the farm that will take on the same amount of flesh on the same quantity of food in the same time I have failed to find it.

Who Will Prescribe?

To the Editor:—Some disease has attacked my hens. When first taken, I notice they set with their heads lying flat on the ground; and as the disease advances, they lose all control of head and neck, being seemingly all right otherwise. There seems to be no swelling or disorder of any kind about the head or neck—simply paralyzed. If you can tell me, from this very indefinite description, what the trouble is, and what will cure it, I will be greatly indebted to you. W. H. Comstock.

Folsom.

THE VETERINARIAN.

Homeopathic Treatment for Murrain.

To the Editor:—Knowing you wish to be a medium for advanced methods and helps to the farmer, I beg to pen you the following lines, which are as consensed—rather too much so—as the subject will admit of.

Murrain in Orange County.—It is with surprise that I read Dr. Garner's treatment of murrain in cattle among your leaders of July 25th, '96. First, I will take Dr. Garner to task for bleeding in the year of our Lord, 1896; and, secondly, I will try and show how homeopathy would treat (successfully) this disease of murrain.

Firstly—It is generally understood that bleeding has been abolished from enlightened medical practice, allopathic and homeopathic alike, by the grand stand taken by Hahnemann, the father of homeopathy, who proved that a few drops of aconite, to speak in general terms, would do all that bleeding was supposed to do.

Authorities Against Bleeding.—I will quote from "Conferences Upon Homeopathy," by Dr. Grainier of Nimes, France, published in 1860, and by a few of his extracts I will show how the allopathic school of France of that day were beginning to look upon bleeding. The names quoted were the most celebrated men of their day, although their names may be foreign to most of us here to-day, and they prove that bleeding was worse than useless. And what is good for man is good for beast!

On page 310 in the book referred to read: Prof. Cruveilher says: "Lung fever (pleurisy) is certainly one of the complaints for which the treatment by bleeding has been most generally employed; yet I have never seen it stop the fever, which lasts five to nine days; on the contrary, how often do we see the fever appear with redoubled force after a long fainting fit, produced by copious bleeding!"

The illustrious Lordat, a great physiologist, says: "Bleeding puts out of the power of those it has uot killed to manifest any symptoms for some time. The affection which required (?) the bleeding *reproduces the same symptoms as soon as the system has acquired sufficient strength to form them.*"

Prof. Andral says: "By either local or general bleeding you can in no wise remove this unknown cause, under whose influence an organ is congested. It would be utterly useless to repeat bleedings. *Were there but one drop of blood left in the whole economy, it would, in spite of bleeding, flow where the stimulating cause calls it.* It is then the cause, far more than the congestion (which is but an effect), that you should understand and combat."—Andral, Anat. Pathol., Vol. I, p. 25.

Mons. Bousquet, speaking to the Academy of Medical Science in Paris, says: "You might take every drop of blood from a sick persou without being able to cut short the slightest inflammation."

Mons. Dubois of Amiens says "that congestions are owing to essentially vital phenomena, and rise independent of a more or less quantity of blood."

Why, then, in A. D. 1896 are we taking blood away from animals to lessen congestion? If the animal, whose blood is quite thickened, according to Dr. Garner, in these cases of murrain, is treated according to homeopathy, as I will try to show (humbly, for I have but small knowledge in this interesting science), the blood will regain its normal state on the animal's recovery, and the recovery will be quick in proportion to the amount of blood which the animal did not have to manufacture afresh. This opinion of not bleeding holds good in the United States generally, and I don't quite see how anyone dare advocate such a method to-day.

What Is Murrain?—Now I come to my secondly. "Cyclopedia of Live Stock" (U. S.) gives no less than eleven names for murrain as they affect different parts of the body.

James Moores, M. R. C. V. S., gives also a list of names, which all mean the same thing—murrain.

The causes are set down by both to be as follows, and this will answer the letter of inquiry to the Los Angeles *Times*, July 25th, by J. von S.: The cause or causes are spontaneous—in low, damp, rich pastures along banks of overflowing rivers, or where ponds have dried up, the soil containing much matter. Fat cattle suffer more than lean, long continued hot weather favoring the formation of miasmatic gases.

Great changes from heat at noon to cold nights.

Many authorities consider the disease to arise from some peculiar condition of the atmosphere, akin to that which produces cholera and influenza in human beings.—Moore.

The case cited by J. von S. above referred to was of a cow tethered on the north side of a swamp. The southerly breezes would give this cow the full benefit of the gases. (J. von S. thought it was a weed which caused murrain.)

One of the main characteristics of this disease is the black, tarry blood, that will not coagulate, and containing rod-like bodies (bacteria). It is the fever in the system which gives the blood this characteristic. James Moore gives the early symptoms as variable (extremely). First, it may attack the cow very *suddenly;* second, it may come on slowly, the cow appearing sligltly ill, but the damage to the lungs going on briskly inside; third, by violent purging, with great weakness and loss of flesh.

The majority of cases present the following symptoms: A dry, short, husky cough, heard only occasionally. It is highly characteristic of the disease, and when once heard it is not to be mistaken. Milk often assumes a yellowish tinge. Appetite about normal. Second stage is marked: Cough frequent. Phlegm dribbles. Breathing short. Inward breath painful. Grunt heard in expulsion of breath. It does not want to move.

The pain is owing to inflamed pleura. It is not much good trying to do anything at the third stage, and the author of the symptomology, James Moore, strongly impresses every cow owner to act on the first indications.

Homeopathic Remedies.—The following named medicines, which are all well-proved drugs, with no secret attached, can be had of Messrs. Boericke & Runyon of San Francisco (headquarters and manufacturers), H. M. Sale & Son, Los Angeles agents, and in Santa Ana, the seat of this disease, opposite the Brunswick Hotel (I forget the name). Literature to help the outlying farmers can be had for a very small sum, and Messrs. Boericke & Runyon give, gratuitously, booklets on human treatment with these indications. I mention this because I am an enthusiast, and want to help those who live great distances from medical help.

Roughly and briefly, these are indications for named remedies:

1. Cow—Pulse hard and quickened; breathing short, painful, anxious; groans; burning dryness of mouth; shivering, etc. Aconitum.
Dose—Ten drops in wineglass of water every one, two, three or four hours, according to the violence of symptoms. Squirt to back of mouth with a little hand syringe.

2. If the following, more prominent: Frequent, short, suppressed cough, conveying the idea that the action of coughing causes sharp pain; cow tries to lessen this by stopping or cutting short the cough; fob same reason breathing is short, with grunt. Bryonia.
Dose—Same as aconite.

3. If the following, more prominent: Quick, difficult breathing, with rattling sounds; cough frequent, with discharge of phlegm from windpipe; great weakness; skin alternately hot and dry, and then cold and moist. Ammonium causticum.
Dose—As for aconite.

4. Wheezing; short, difficult breathing; pulse small; appetite lost; grinding teeth; clammy sweats; purging. Arsenicum.
Dose—As for aconite.

5. If the following: Breathing difficult; cough, etc., attended by discharge of slimy phlegm, mixed with blood. Phosphorus.
Dose—As directed for aconite.

Food.—The food should be slops, bran mashes, oatmeal gruel, hay tea. Great care must be taken not to give much food when appetite returns, or death almost always results, there being but little power of digestion. Mr. Moore gives this as an especial warning.

Vaccination.—Inoculation has given Ediuburgh, Scotland, a clean bill of health in this respect, which was for years a hotbed of the disease, and London, England, cow keepers have practiced it for years successfully.

If, as Dr. Garner says the only *efficacious medicine* is that applied to *unaffected cows*, who can say that these unaffected cows ever would have need of it? And therefore the loss on affected cows must be 100 per cent by other methods than homeopathic—in this case by bleeding, etc. Homeopathy has been quoted as saving 70 per cent in first and second stages, and about 22 per cent in third stage.

El Toro, Orange Co. E. Petrie Hoyle.

THE HOME CIRCLE.

A Secret.

Shall I be like grandma when I am old ?
  Shall I wear such a queer little bonnet—
No feathers, no posies but just a plain fold
  With a little white edging upon it ?
Shall I sit in an easy-chair all the day long
  With a great ball of wool and a stocking ?
Shall I think it quite dreadful for folks to do wrong,
  And dirt and disorder quite shocking ?

Shall I wear a white cap full of dear little bows,
  And a row of white curls on my forehead ?
Shall I keep my face clean, and take care of my clothes,
  And never be snappish and horrid ?
Shall I think that the Bible's the nicest of books,
  And remember the sermon on Sunday ?
And not think how stupid the minister looks,
  And wish it would only be Monday ?

Just wait till I tell you what grandma once said—
  I hope that you won't think me crazy.
It happened one day when they sent me to bed
  For being ill-tempered and lazy.
She came and sat by me, and patted my hand,
  And told me, "There's no use in crying;
It's by stumbling, my pet, that we know how to stand,
  And we always grow better by trying."

"Was any one ever so wicked as me ?"
  I asked her between my sobbing.
Then grandma laughed just as hard as could be,
  And her little white curls went bobbing.
"Was any one ever so naughty as you ?
  I'm sure that I know of one other."
"Who was it ?" I asked. "Oh, please tell me; do."
  She whispered, "Your own grandmother."
Now, isn't it strange ? But of course it is true.

I can tell you just one thing about it—
She'd not tell a story, whatever she'd do,
  And we'd only be silly to doubt it.
But of course I fell certain you never will tell,
  For how perfectly dreadful 'twould be
To have people know, who all love her so well,
  That grandma was ever like me.

Betty's Story.

The dainty dresses of half-a-dozen young women who were grouped on a veranda repeated in pink and white and blue and yellow the many-colored flowers of the terraced garden. Golf had temporarily engrossed the men of this "house party," and a rather slumberous silence, born of the freshness of the country air, sank presently upon the deserted feminine assembly.

"We shall be asleep in another moment unless some effort is made to keep us awake," a girl declared with sudden energy. "It would be too mortifying to confess to those fellows, when they return, that a nap proved our only resource in their absence. Tell us a story, Betty."

Three or four voices joined the suppliant, until Betty Wharton implored a pause to collect her thoughts.

They were all of them curious about this old comrade who had left them on her wedding-day three years since to go to a Texas ranch, whither her husband had been ordered by a council of doctors as the sole remedy for a serious threatening of consumption. Betty's letters were brief and infrequent, but there was mention of rough journeys and hard work, of long illness and swift danger.

When the Whartons at length came for their first visit, these friends, the gay tenor of whose lives had run smoothly through familiar channels, expected to find many changes in the wanderers. Yet they had found few! Rex, indeed, showed regained health by every glance and movement, and the stories he told were as picturesque as the adventures of a sojourner in the wilderness should be. But Betty seemed quite the same Betty who had gone away. Was she, who dressed and chattered so blithely, the woman who had worked and hoped and dared so dauntlessly as her husband declared ?

"You remember Rex and I were married in January," Betty began.

"We went immediately to southern Texas, where he intended to buy part of a cattle ranch, after trying the climate for a time. Our journey was tedious, the ranch rougher than we had imagined, but, as long as cool weather lasted, Rex improved, and was able to be on his horse most of the day."

"Did you ride with him ?"

Betty laughed.

"When I had learned to manage an animal I could never have mounted here. The education of a Texas housekeeper includes varied lessons, and a knowledge of horseflesh and the use of firearms is considered as important as the art of washing and cooking. We made a gay bivouac of our hardships while Rex remained well. But with March the hot weather began. To say that it began gives no idea of its suddenness. It fell upon us like an avalanche, and crushed Rex. He ceased to eat or sleep; and would return to me exhausted by an hour in the saddle. Early in April he had a hemorrhage. God knows how long it was before they brought us a doctor. It seemed eternity. Then he rallied somewhat. His pluck is limitless, and he insisted upon riding again in the freshness of the mornings. One day he dropped into my arms as he dismounted, and there was another hemorrhage. I had learned what to do for him, and he was better when the doctor arrived, but I could bear suspense no more. I drew the doctor outside the cabin and desired him to tell me what hope there might be for us, and what possibility of strengthening that hope. We bought a light wagon and a pair of tolerably well-broken horses, and, equipped with the merest necessaries in clothing and provisions, we started on the morning succeeding the doctor's verdict. At the last he was very near going with us, but there was much illness among his widespread patients, and finally we departed alone. Our plan was to cut across the prairie to a newly finished branch of the railroad, which would convey us to a decently civilized mountain resort, where Rex would have an invigorating climate and some of the comforts for lack of which he was dying. We had arrived from another road and all we knew of our present way was the doctor's instructions The drive would take us three days to accomplish, and lay through the dry region of Texas, where population is scanty because of the scarcity of water. The solitude was intense—the depressing solitude of the plains! Yet that this solitude should be undisturbed was our hope, a possible encounter was our dread."

"Indians ? You brave Betty !"

"There are not many Indians left in southern Texas, but the country is infested by half-breed Mexicans and the varied toughs and ruffians who escape from the restraints of more complete government, to make the cheif danger of these border lands. Our first day passed uneventfully. At nightfall we reached a ranche to which the doctor had directed us where I found a boy to groom my horses and a woman whose history was written in her shamed look; but who was good to Rex and very sorry for me. My husband was feverish from fatigue, and the night brought slight repose, yet we set off at dawn, as we had a drive of many hours before we could arrive at our next shelter. As the day grew the heat grew, until the wide, brown prairie seemed the bottom of a huge copper cauldron, whose close-shut lid was the shining sky. There was neither air nor shade. The horses panted heavily with very slow stride; Rex's hair and beard were dusty gray, and his eyes—oh, girls, pray God you may never see such weariness in the eyes you love, and which smile bravely up at you! Slowly I drove toward some vaguely outlined buildings, whose increasing bulk, as we approached, suggested an establishment of more than ordinary size, though there was no other sign of life than that friendly shining beacon. I drew up before what seemed the entrance, and shouted. Rex started into wakefulness, a door cracked sharply open, and in a broad stream of lamplight a tall figure loomed darkly.

"'Who is here ?' he asked, roughly.

"'A man and a woman who need shelter,' I answered, with a quickly acquired mimicry of the frontier's lack of euphuism.

"'You will have to go to the next place.'

"'How far ?'

"'Fifteen miles.'

"'My husband is ill, and my horses are dead beat—'

"'I can't take you !' he interrupted. sternly, and turned away.

"His refusal was stranger than it seems to you, who do not know that the prairie is as hospitable as the desert, and that a cowboy shares his cabin as generously as the Arab shares his tent.

"Rex clasped my hand, and, sitting upright, struggled to speak, but the words trailed away into a sigh, and he sank forward across my knees.

"'He has fainted !' I cried. 'For God's sake help us !'

"The man came to the wagon's side and peeped at my poor Rex, and then at me. His look was not unkindly, so much as sombrely anxious.

"'Look here,' he said, 'I don't want to turn a sick chap from my door. I would take care of him if he were alone—but I can't risk you !'

"'Why ?'

"'I hire convict labor from the State. I've seventy-five rascals at work on a reservoir near by, with only four guards, and they will tramp back to supper here in half an hour. Now do you understand why I don't dare let a woman stay ?'

"'I dare to stay,' I said. 'I've got a pistol, and I can use it. I don't ask you to protect me. I ask you to give my husband a bed, and let me watch beside him.'"

Betty paused. Horror stared from six pairs of feminine eyes which had never confronted life's darkest aspect.

"He did not speak for a long moment," Betty continued. "Then he paid womankind a compliment.

"'When a girl has got spunk, I'm hanged if she don't beat men folks out of sight !' he cried.

"After which he briefly informed me that he possessed a cabin a quarter of a mile distant, where he slept occasionally when he wanted to get away from his gang. There Rex and I might pass the night in possible security, if no one discovered my presence, a possibility, however, for which he declined to be responsible.

"Of course I eagerly accepted both the shelter and its danger. Within a few minutes he installed us in a tiny room, where the cot, to which he carried Rex, was almost the only furniture. He barred the single window, brought me our basket of provisions and a bucket of cool water, and departed.

"'I'll hobble your horses where they ain't going to be found, and I'll come to see you off at daylight, before anybody is stirring,' he said, lingering in the doorway. 'Keep those shutters closed, and don't you call for help, never mind how sick your man may be—he would rather die than have you risk what might come to your call !'

During a couple of hours I could spare no anxiety from Rex, who recovered consciousness slowly, so oppressed by the intence heat that every gasping breath foreboded a hemorrhage. At length his wandering gaze rested on the closed shutters, and returned to me with a gleam of hope.

"'More air,' he faltered. 'Open the window.'

"He had heard nothing of our host's warning, and I could not explain to him a danger whose mere suggestion, in his utter helplessness to protect me, would assuredly kill him.

"I opened the shutters.

"After a time the gradual coolness of the night stole upon us, the frown of suffering left his brow, and he slept. I rose from my knees beside the cot, and went to the water bucket. It was empty. I had used all its scant supply in my despairing efforts to allay his fever with bathing and compresses.

"If he should wake presently, he would crave water. Dully I considered this new need, for I was half-dazed from fatigue. Could I risk the chance that Rex might rouse in my absence and grow uneasy, while I wandered about in the darkness, seeking the spring without whose neighborhood, in that arid land, no ranch was built. Could I risk the encountering of that other danger which threatened me ?

"I turned sharply at some slight sound and I saw—oh, girls, I shall renew that instant in dreams while I live—I saw a face and figure framed by the black square of the open window—a scowling, sullen face, and a figure in convict's dress.

"With the realization of my helplessness fear left me, and I gazed straight into the wild light eyes of the man who confronted me.

"A man whom God had made, and who therefore possessed a soul capable of good, could I but reach it.

"I walked softly to the window.

"'Whisper what you wish,' I murmured. My husband will die if he wakes suddenly.'

"No answer. Merely the dumb glare, fierce yet bewildered, of those unwinking eyes.

"'If I can help you without leaving my sick husband—

"'You not afraid of me ?' he interrupted in hoarse, foreign accents.

"'No, I am not afraid of you.' Truly I no longer feared those bold eyes, that cruel jaw, those big fists clinched on the window ledge—God knows why.

"I stepped close to him. I laid my hand on his shoulder.

"'You will neither hurt that sick man nor me,' I murmured. 'You will help us.

"I brought the empty bucket to him.

"'I don't know where to get water for my husband. Will you fill this for me ?'

"Silently he took the bucket and went away—"

"You bolted the shutters at once ?" a girl interrupted, breathlessly.

"I left them open," Betty replied.

"My only dread was that Rex would wake. But he slept profoundly, and the convict returned speedily. With awkward noiselessness he leaned through the window and put the well-filled bucket on the floor. Then I lifted my money bag, and the light flickered upon the tiny hoard of silver.

"An evil purpose quivered over his watching face, his coarse fingers streched out greedily.

"'You have helped us,' I said. 'Let us help you.'

"He drew back his hand, he straightened his slouching figure, there was a dimness of tears in his eyes.

"Despite his shameful dress he looked the man God created him to be—not the criminal whom sin had debased.

"'Me no touch you, me not touch your money,' he muttered, 'You go sleep, me let no harm come.'

"With which he walked away into the darkness, and I lay down beside Rex and slept peacefully until our host appeared at dawn."

A flutter of caresses followed Betty's conclusion, and a wonder of admiration for this girl who was one of themselves—a wonder which questioned in each heart whether love could make her also as faithful and brave.

"Did the convict escape ?" somebody asked presently.

"Oh, yes ! The ranchman warned us to keep watch for a convict who had run off during the night, and for whose pursuit no guard could be spared. Rex and I watched for him eagerly, as you can imagine, but I never saw him again. We reached the mountains before the next night, and Rex has grown steadily stronger ever since."

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Fashion Notes.

Links are used, to the exclusion of buttons, to fasten the cuffs of shirt waists.

Ribbon bows are not now used in the hair, unless it be a very small one, used to support an aigrette or some ornament when in full dress.

Skirts of black canvas, made over black taffeta silk, are now most desirable to wear with fancy bodices. They are made perfectly plain, but they must be very well cut and hung, otherwise they lose their cachet.

A dainty gown of black and white striped chine silk has white chiffon sleeves and bodice crossed by bands of black velvet ribbon. The pinafore-shaped bodice of brown canvas, finished on the edge with brown satin ribbon, shows an under bodice and sleeves of cream-white crepe de chene, with epaulettes of canvas falling over them.

Blue and white foulards with two ruffles of fine white lawn finished with a hem of blue lawn are one of the novelties, and the bodice displays a fichu of white lawn with the blue-edged ruffles and a belt of green velvet ribbon.

Other blue and white foulards are made with a bodice of white embroidered mousseline de soie, and a shirred piece of silk with a narrow beading on either side of the front, leaving a little space between, is drawn around to form a corselet effect, and is finished at the waist line with a black satin belt.

Sashes are worn again, and are made of wide black satin ribbon, flowered ribbon, chiffon or plain silk, with a frill of Valenciennes lace all around the edge.

When muslin dresses are much worn, sashes invariably appear, and those made of black or white chiffon with long frilled ends are the daintiest of all. They fasten with an antique enamelled buckle at the side or in the middle of the back, as you choose, and for a flowered muslin gown they are perfection, while others of plain glace silk with a tiny lace frill on the edge are equally pretty for this purpose.

Narrow frills of changeable ribbon not more than an inch wide are used to trim the skirts of some of the pretty light summer dresses, and pinked-out ruches of silk are seen on others.

Ruches and puffings of chiffon are another feature of dress trimming, and narrow double frills of chiffon edge many a lace collar, epaulette and jaunty little bolero. Fichus of lace, net, chiffon, muslin and silk are another fashionable accessory of dress, and the very latest novelty in this article of dress is made of flowered silk muslin, and worn over plain white organdie or silk gowns.

A new idea in the corselet belt, which is such a special point of fashion just at present, is the use of two or more colors, and bias folds, each in a different shade of some color, make a very good effect with the darkest shade at the lower edges.

Many of the silk wrappers and lounging gowns have wide, loose sleeves in imitation of the Japanese kimonas. The looped sleeve is made of one long shapeless length of silk put in without fullness, kimona fashion, and, of course, the fronts are folded back a la Japonais. A trimmed silk petticoat in gay colors and a matinee jacket in delicate wash cottons is a charming and quickly accomplished neglige.

The neck ruche is quite as popular as ever, and has scarcely decreased in size with skirts and sleeves. They are made now with artificial flowers and surroundings of lace and chiffon. The latest idea is to have the choker almost tight, with all of the fullness bunched in the back, the fullness often extending in the form of a jabot down the back breadth. This is only practicable on slender figures or with the careful adjustment of the trimming on the front of the bodice.

How much water shall we drink? Prof. Thos. G. Allen says, from one-third to two-fifths as many ounces as there are pounds in our weight. Thus a person weighing 168 pounds would drink 56 to 84 ounces, or 3½ to 4 pints daily.

Historical.

The two States which came forward most actively with volunteer soldiers after the firing of the shot at Lexington, "which was heard all around the world," were Massachusetts with sixteen thousand troops and South Carolina with four thousand. Pennsylvania, at the beginning of the war, was very tardy in coming forward. It lagged behind the other colonies with less than five hundred recruits.

George Washington is buried at Mount Vernon, Va., John Adams at Quincy, Mass., Thomas Jefferson at Monticello, Va.; James Madison at Montpelier, Vt.; James Monroe at Richmond, Va., John Quincy Adams at Quincy, Mass.; Andrew Jackson at Nashville, Tenn.; Martin Van Buren at Kinderhook, N. Y.; William Henry Harrison at North Bend, O.; John Tyler at Richmond, Va., James K. Polk at Nashville, Tenn.; Zachary Taylor at Louisville, Ky.; Millard Fillmore at Buffalo, N. Y.; Franklin Pierce at Concord, N. H.; James Buchanan near Lancaster, Pa.; Abraham Lincoln at Springfield, Ill.; Andrew Johnson at Greenville, Tenn.; Ulysses S. Grant at Riverside Park, New York; Rutherford B. Hayes at Columbus, O.; James A. Garfield at Cleveland, O.; Chester A. Arthur at Albany, N. Y.

The first trained nurse to offer her services to Uncle Sam at the outbreak of the civil war lives in El Cajon valley, San Diego County Cal., She is a wide-awake Scotch woman, now seventy years old, who, prior to the war, was a head nurse in Bellevue Hospital, New York. While there a wounded thief was attended by her. He stole the doctor's silver probe, after it had been used to locate a bullet in his arm. The nurse manifested such a kindly interest in the thief patient that he relented, and when discharged from the hospital returned the probe, although previous vigorous search had failed to reveal the missing instrument. Years afterward, while dressing gunshot wounds on the field of battle, the nurse was recognized by a severely wounded Union soldier, whom she did not at first know. He proved to be the ex-thief. He had reformed, and was fighting for his country like a man.

Curious Facts.

Students of nature have never been able to explain the chameleon's change of color.

The greatest velocity attained by a whale when struck by a harpoon is nine miles an hour.

Oxen and sheep are believed by some stockmen to fatten better in company than when kept alone.

In China, "the land of opposites," the dials of clocks are made to turn round, while the hands stand still.

The heaviest man whose weight is recorded authentically was Miles Darden of Tennessee. He weighed a little less than 1000 pounds.

Gold in transit across the Atlantic "sweats," however tightly it may be packed. It is usually sent in stout kegs and squeezed in is as tightly as possible, but there is a regular allowance for loss by attrition upon the voyage, and in the course of years this loss to the commercial world amounts to a large sum.

The sea cucumber, one of the curious jelly bodies that inhabit the ocean, can practically efface himself when in danger by squeezing the water out of his body and forcing himself into a narrow crack—so narrow as not to be visible to the naked eye. He can throw out nearly the whole of his inside, and yet live and grow it again.

A Swiss statistician has taken the trouble to count the number of steps he took in walking during the whole year. The number he finds to have been 9,760,900, or an average of 26,740 steps a day. Going still further into details, he declares that over 600,000 of these steps were taken in going up and down stairs.

DOMESTIC ECONOMY.

Hints to Housekeepers.

The inside of the skin of the banana rubbed on the leather of tan shoes will clean and polish them as well as a regular dressing.

Many things can be dusted with a damp cloth followed by a dry one, with advantage, and this plan will remove the dust as no dry cloth can.

A small hammock, to be swung just over a baby's bathtub, is the idea of a mother whose infant was afraid of the water. In this way it can be sponged as thoroughly while lying down as if its little life were frightened out of it by the sudden plunge.

One of the best ways in which to remove old wallpaper is to dip a large and clean whitewash brush in warm water, and to apply it evenly to the wall before scraping with a kitchen knife. Holes in the plaster should be filled with plaster of Paris, mixed with mortar.

Now is the time to prepare your potpourri for the coming winter. It is not necessary to confine yourself to rose petals alone. Leaves of the rose geranium, mignonette, violet and lemon verbena may be added to the rose petals with the layers of fine salt and a few fragrant spices.

A violet perfume may be made easily by putting half an ounce of arrowroot, broken into small pieces, in a bottle with two ounces of alcohol. Cork tight and shake well. After it has been standing four or five days, a few drops placed on a handkerchief will leave the odor of fresh violets.

A simple test of digestibility given to a class of nurses, by which one can easily determine if a solid food is one which is proper to give a sick person, is to drop a small piece of it in cold water. If it soaks up the water rapidly, the food is moderately digestible.

A baked custard is one of the easiest things to make, and also one of the easiest things to spoil in baking. A shallow dish is better than a deep one. Place the dish containing the custard in a pan of hot water and bake in a moderate oven. Try it with a knife-blade, and as soon as the blade comes out clean, remove from the oven at once.

There are several ways of loosening the glass stoppers of decanters and bottles. One is to stand the bottle in hot water, another is to drop a little oil with a feather between the stopper and the decanter and stand it near the fire. After a time strike the stopper gently with a piece of wood, on all sides, and if it does not move, repeat the process. A strip of flannel or wool wound around the neck of the bottle and smartly pulled backward and forward to produce friction will sometimes loosen stoppers.

Domestic Hints.

Bird's Nest.—Boil eggs hard, remove shells, surround with forcemeat; fry or bake them until nicely browned, cut in halves, and place in the dish with gravy.

Stewed Cucumbers.—Pare the large cucumbers, cut lengthwise into four parts, and remove the large seeds. Soak them half an hour in cold water. Cook in boiling salted water to cover until tender. Drain off the water; add a little butter, salt and pepper, and, when well heated, serve on toast, or make a thin white sauce and pour over them.

A Nice Sally-Lunn.—One and a half pounds of flour, three eggs, three ounces of butter, three tablespoonfuls of yeast, one tablespoonful of sugar. Melt the butter, and boil a pint of new milk, which should be allowed to cool off before being used. First beat the eggs very light; then add alternately a little milk and a little flour, until all are used in a stiff batter.

Strawberry Preserves.—A delicious preserve may be made by hulling strawberries that are free from blemish and not over-ripe and placing them in a porcelain kettle with their weight in white sugar. Allow them to stand over night, and in the morning set them over the range and allow them to boil steadily for an hour. Not a drop of water should be used; the juice from the berries will furnish all the liquid necessary.

Cabbage Pudding.—Boil a firm, white cabbage 15 minutes, changing the water, then putting on more from the boiling teakettle. When tender, drain and set aside until perfectly cold. Chop fine, add two beaten eggs, a tablespoonful of butter, three of very rich milk or cream, pepper and salt. Stir all well together and bake in a buttered pudding dish until brown; serve hot. This dish is digestible and very relishable.

Filling for Lemon Pie.—Mix one heaping tablespoonful cornstarch with one cup sugar, add one cup boiling water and boil five minutes. Add one tablespoonful butter, the grated rind of half and juice of one lemon and one well beaten egg. Turn into the crust and bake until the crust is done. Cool and cover with a meringue made with the whites of two or three eggs according to your fondness for much or little meringue, and a large tablespoonful powdered sugar and one teaspoonful lemon juice to each egg. Pile it on lightly and color a delicate brown.

Bits of Fun.

"Mary Ann," remarked Mrs. Wickwire, "I think if you will take a sweeping glance around this parlor, you will see that you have given it a very glancing sweep."—Indianapolis Journal.

Mrs. Grimble (to her offspring): "There you go, tracking the floor all over with mud. Didn't I tell you to wipe your feet before you came in?" Johnny: "Oh, nobody's blaming you, ma; you did all you could."—Boston Transcript.

A couple of lawyers engaged in a case were recently discussing the issue. "At all events," said the younger and more enthusiastic, "we have justice on our side." To which the older and warier replied: "Quite true; but what we want is the chief justice on our side."—Exchange.

The mother asked little Dot to go into the next room and see if the clock was running, for she had not heard it strike all the afternoon. Dot came running back, put her curly head into the door and exclaimed: "Why, no, mamma, de clock ain't a-runnin'. It is des stannin' still and a-waggin' it's tail."—The Congregationalist.

The little maid had been ill and had struggled through the early stages of convalescence. She had taken "nourishing" broths and "nourishing" jellies until her soul was weary within her. One morning she electrified the family: "I want you all to take notice. I am not going to take any more nourishment. I'm hungry and I want my meals, and not another mouthful of nourishment will I take."—Philadelphia American.

If it be a fact that murderous deeds are done in cold blood, the proper time for such sins should be between 11 at night and 1 in the morning, for it is in this interval that the temperature of the human body falls to its minimum. Healthy beings go regularly through a daily cycle of variable warmth. The maximum heat is reached at 9 A. M., when in persons under 25 the temperature stands at 99° Fahrenheit, and this is maintained until 6 P. M., when it slowly and steadily falls till an hour before midnight; the amount of decrease by this time is something over 2°. At about 3 A. M. the upward turn is taken and the heat increases till 9 o'clock. It is curious that this extent of change only occurs in young bodies, for old people preserve a nearly equal degree of warmth all the twenty-four hours through. Other notable facts are that eating and drinking have nothing to do with the variations, and that hot and cold baths do not appear to interfere with the regularity of the successive changes.

Artificial Sunshine.

At the recent meeting of the American Institute of Electrical Engineers in New York, D. MacF. Moore presented a paper embodying the results of his researches in the direction of producing light with sensible heat. All efforts in the production of cold light have heretofore failed, because of the fact that with the exceedingly high potentials required for the production of the rapidly oscillating currents necessary to cause vacuum tubes to glow, ordinary insulating materials do not insulate properly. The nucleus of Mr. Moore's researches and inventions is that of a disruptive discharge of an induction coil, the break of which is produced in a vaccum. Under these conditions it is found that the phenomena produced by ordinary apparatus for producing glow light in a vacuum tube are wonderfully changed, both in power and quality of the light emitted. At the potentials which are used in this apparatus, ordinary insulating materials are adequate for all insulation of the system. The amount and kind of light emitted depends upon the suddenness of the break in the primary circuit of the induction coil, and this, under ordinary conditions, cannot be done rapidly enough to produce the desired effect, owing to the prolongation of the time of making and breaking the circuit caused by the spark which is produced at the make and break of an inductive circuit. By producing this break in a vacuum the narrowest conceivable complete gap in the metallic circuit results in an almost instantaneous discontinuance of current, insuring the proper conditions for the production of cold light. The apparatus by which these results are accomplished are extremely simple, consisting of an ordinary small electromagnet, a vibrating contact contained in a vacuum tube of any desired dimensions which furnish the light by the glow produced in its interior. The vibrating contact is formed of a steel spring rigidly supported at one end and connected in the circuit so that the attractions and repulsions of the electro-magnet located outside the tube inclosing it intermittently make and break the current in which the glow lamp is placed. This glow lamp consists of a simple glass tube of any desired dimensions, exhausted of air and provided with a tinfoil cap at each extremity. These caps are connected to the electric circuit. When the circuit so formed is supplied with current by a battery of a few primary cells, a beautiful glow resembling sunshine is obtained. The color of this glow when contrasted with the light of an incandescent lamp causes the latter to look reddish and to have a wasteful air, indicating the presence of heat waves, while the light of the former appears by contrast to be pure white. While the system has not yet been developed to a commercial basis, the hall of the institute was beautifully lighted by these tubes during the presentation of the paper. A decided advance has been made upon what was thought impossible even a year ago, and the many advantages possessed by cold light mark it as the light of the future for general illumination purposes.

A SIMPLE characterization of the difference between anthracite and bituminous coal is practically in the amount of volatile substances that can be driven off by the application of heat; thus, anthracite coal contains from 5 to 10 per cent of volatile matter, the remainder being carbon and ash, while bituminous coal has from 17 or 20 up to as high as 36 per cent.

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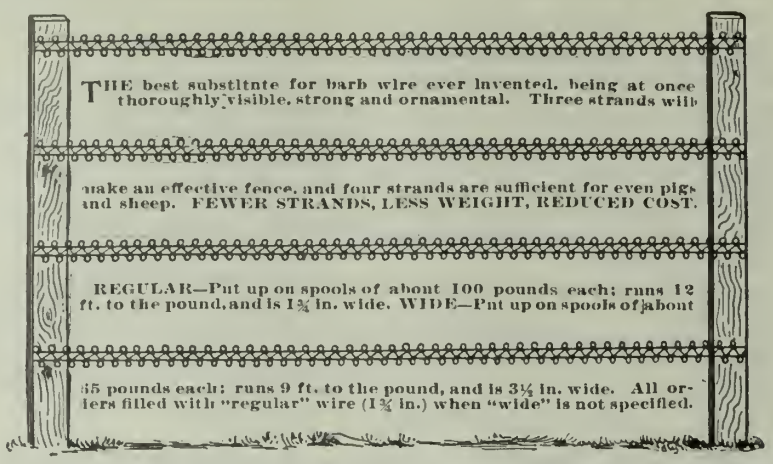

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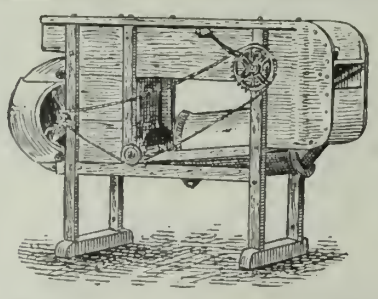

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A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

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The simple lines of the summer gown are its greatest attraction, and our illustration shows a simple and becoming gown of silk-embroidered batiste, a sheer and beautiful quality, through which the lining of heliotrope silk, matching the embroidered figure, shows effectively. The skirt is the "Khiva," which is described below. The waist has a fitted lining of the silk, and the batiste is put over with slight fullness, having a double box-plait in front, drooping slightly, and a single one in the back, which is, of course, drawn down smoothly. The neck and large collar are trimmed with bands of insertion. Bows of ribbon form an attractive finish.

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967—Khiva Skirt.
Sizes Medium and Large.

This is an exceedingly graceful design, having seven gores and measuring about five and a half yards around the bottom. It fits the figure trimly at the top and the fullness in the back is gathered, allowing it to fall in easy folds. This model is used for the skirt illustrated. Both lining and outside are cut by the same pattern and mounted to one belt, but they are seamed and finished at the foot separately. The skirt is trimmed with a band of batiste insertion.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING JULY 21, 1896.

564,381.—FRUIT DIPPER, ETC.—F. Kimhle, Los Angeles, Cal.
564 251.—PIPE PATCH—T. F. Long, Garvanza, Cal.
564,452.—KEY FASTENER—F. Reisner, Eugene, Or.
564,396.—BUGGY TOP ADJUSTER—J. G. Ritz, Newberg, Or.
564,314.—ANNUNCIATOR—J. B. Rogers, Zillah, Wash.
564,341.—HYDROCABON—F. Salanthe, Santa Paula, Cal.
564,580.—PAPER FILE—A. J. Thompson, S. F.
564,349.—LAWN SPRINKLER—J. P. Van Sickle, Pasadena, Cal.
564,463.—CUSPIDOR—Wolf, Johnson and Wallace, Winslow, Ariz.
25,797.—DESIGN FOR CURTAIN RING—W. P. Bower, Los Angeles, Cal.

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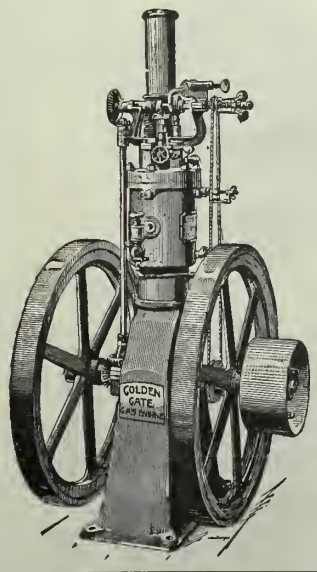

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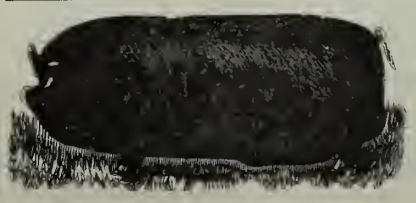

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EDWIN F. SMITH, Secretary. C. M. CHASE, President.

Nervous Strain of Railway Work.

There is reason to believe, says the *Medical Journal*, that at all times there are men on the line who are working very near to their breaking strain. We may in regard to this mention three well-known instances which, at the least, show the tension under which work is often carried on. A station master, seeing a man run over on the line, himself fell down dead upon the platform. Here was a shock which permanently made his heart stand still; but how many times had not that man's heart stood still before? We may feel perfectly certain that if the major shock could kill, the minor daily recurring shocks of a railway life must have greatly damaged a heart so under the influence of the nervous system. Two trains collided at a junction. It was either the fault of the drivers or of the rails, certainly not of the signal man. The signals were not right; yet when the box was entered the signal man was found to have gone mad, and had to be taken to the asylum, where he remained for long. He was broken utterly by the horror of the dilemma; but what shall we say about the smaller dilemmas which every hour of his working life he had had to solve? Did they not also have an effect, although a lesser one, upon his brain? A few years ago it was found that the sickness rate among the signal men of certain lines was becoming excessive, and it was determined to do away with the system of leaving to one man the whole responsibility of taking charge of a signal box. At great expense every box along the line was supplied with two men. Great evils were prophesied; it was thought the men would talk and lark and neglect their duties. This did not happen, but the sickness stopped. Under the shared responsibility they no longer broke down. If, then, as seems to be indubitable, railway "strain" can have definitely injurious effects upon the nervous system, it becomes an important question for inquiry whether this nervous derangement at all frequently has the effect of impairing the nutrition of heart.

How Poisons Act.

Carbolic acid produces immediate vertigo and intoxication, with burning pain along all points of contact. The breathing becomes stertorous and the pupils of the eye contract.

Phosphorus in overdose produces irritation and disturbance over every part of mucous it touches, and the contents of the stomach when removed are luminous as is phosphorus.

Prussic acid is the most rapid of all poisons, killing like a stroke of lightning. A teaspoonful of 2 per cent prussic acid will kill. In a few seconds after the liquid is taken the face turns bluish and the person sinks to the floor.

Opium, morphine and the like produce a period of exaltation, followed by stupor, which merges into death.

Strychnine is followed by convulsions; the head jerks back and the body rests on the head and the heels, arched like a bow. These spasms come intermittently till death.

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5	48	2⅜	"	2½ in.	4000 lbs.
6	50	2⅞	"	4 in.	6500 lbs.
6	38	1¾	Concord Steel.	3 in.	4000 lbs.
2	40	2	"	2½ in.	6000 lbs.
4	40	2	"	3 in.	6000 lbs.
2	40	2	"	4 in.	6000 lbs.
8	18	3¼	Steel Skein..	2 in.	4000 lbs.
2	18	3¼	"	2½ in.	4000 lbs.
8	19	3½	"	2¼ in.	5000 lbs.
4	19	3½	"	3 in.	5000 lbs.

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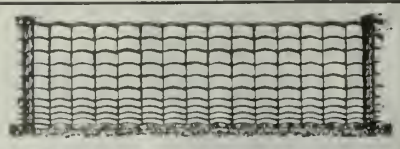

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Some farmers claim that State Fairs have degenerated into mere "Agricultural hoss trots," with attendant demoralizing influences. The P. W. W. F. Co. comes to the rescue with a free exhibition of native wild animals, such as Deer, Elk, Buffalo, etc., securely enclosed with the only park fence. Send for particulars.

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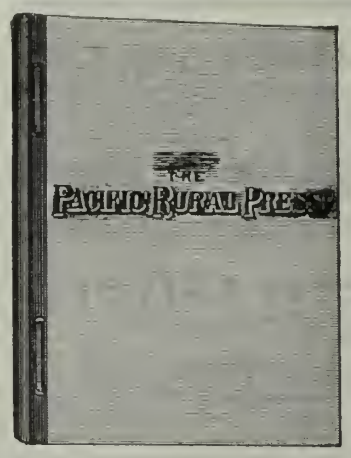

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THE PACIFIC RURAL PRESS,

220 Market Street San Francisco, Cal.

Patrons of Husbandry.

From the State Lecturer.

LA SALLE COUNTY, ILL., POMONA GRANGE.

From a recent description, the above Grange organization is one of the largest, most important and prosperous in the United States. A recent meeting was held with open doors, with the exception of a short secret session for business and conferring the fifth degree on a class of Husbandmen and Matrons. People came in the evening for many miles and the commodious hall was packed to overflowing. La Salle county, which is second only to Cook—in which Chicago is situated—in wealth and population, has an area equal to a New England State, and Patrons met in this central location whose homes were nearly fifty miles apart. The meeting was both interesting and valuable to the organized farmers, who scattered at the close of the session to their widely separated homes, determined to be better Patrons, better farmers and better citizens.

Freedom Grange, Illinois, is equally prosperous, and numbers among its members C. A. Shamel, editor of the Orange Judd *Farmer* of Chicago and secretary of the Illinois Agricultural Press Association. Hon. David Ward Wood of Chicago, editor and orator of national reputation, is a member of this Grange. Hon. John M. Stahl, secretary of the Farmers' National Congress and advocate of free rural mail delivery, is another of its members. Last, but not least, H. H. Carr, of '94 Board of Trade, who is known all over the Northwest as "the farmers' friend," is also numbered among the membership of Freedom Grange.

"We are proud," writes L. G. Chapman, "to number these able men among our members, everyone of whom was born on a farm and is interested in agriculture."

Freedom Grange has among its number two members of the Farmers' National Congress—one the appointee of Governor Fifer, the other of Governor Altgeld. It also has two members of the International Farmers' Institute, one being the vice-president for Illinois, each State being entitled to one vice-president.

It will be seen by these extracts that the Order of Patrons of Husbandry is honored and respected by the intelligent everywhere and that the organization has within its scope every feature that may elevate and conduce to the well-being of American farm life.

WASHINGTON STATE GRANGE.

The eighth session of the Washington State Grange convened at Vancouver on the second day of June. Delegates were present from every Grange in the State except three. The session was a very satisfactory one in every particular, and much business was transacted. James Wheelhouse, the Lecturer, having tendered his resignation, Peter Setters of Reardon, Lincoln county, was elected to fill the vacancy. The session covered a period of four days. During the session, writes Worthy Master Augustus High of the Washington State Grange, in the American Grange Bulletin; we were favored with visits by our neighbors from Oregon and the old-time Patrons, Brother Voorhees, Past Master of the Oregon State Grange. Brother Miller, Past Lecturer and Bro. Castro, Lecturer. They both offered some valuable suggestions. We were greatly encouraged by their presence. We also had the extreme pleasure of a visit from another Patron, near and dear to the heart of every true member of the Order—Brother Mortimer Whitehead of New Jersey. During his stay in our State, he addressed the Patrons twice upon Grange topics: first, on June 3rd, at this State Grange, second, at Washougal, June 17, it being the quarterly meeting of the Columbia Council of the Order of Patrons of Husbandry.

Brother Whitehead also addressed several meetings on the silver question while in the State, he being an old silverite and a fluent speaker was well received.

THE LATEST OBSERVATIONS.

Eighty towns in Connecticut have begun the construction of macadam highways, encouraged by the $1000 offered by the State to each town for this purpose.

Trains fitted with dining and sleeping cars are the latest educational innovation. This will allow the wealthy pupils to study the country and its resources as they travel.

It must be very unhealthy in Massachusetts this season. *Grange Hours* of Boston says Mrs. Doolan lamented to Mrs. O'Hara that her husband (poor man!) died without the help of a doctor.

The delegate howled with enthusiasm and the reporter asking what he thought of the situation he said: "I'm not here to think; I'm here to holler."

The Southern Berkshire Improvement Association is doing a good work in having signs of patent medicines, etc., removed from trees and poles along the highways.

A Massachusetts court has decided that a person cannot recover for the sale of oleomargarine sold in that commonwealth. This was in a case where a peddler was sued for $2015.

The educational work of the Grange, says the National Lecturer, is of such a varied nature, so wide in its scope and so successful in its results, that the thoughtful public are beginning to look upon it as an educational organization, and not as a secret order, as was the case in former years.

A Chicago judge enjoined a young man from calling on his daughter. The young man appealed to a higher court and her mamma reversed the decision.

Queen Victoria has officially denounced bloomers.

California Fruit Sales.

NEW YORK, July 29.—Porter Brothers Company sold at open auction to-day: Peaches—Early Crawfords, $1.80@2 05 per hox. Pears—Bartletts, $1.45@2 per box. Nectarines, $1.60 per half-crate. Plums—Japan, $1.45@1.60 per half-crate; purple Duanes, $1.10@1.25; Washingtons, 80c. Prunes—Tragedys, $1.20@1.40 per half-crate; German, $1.10@1.25.

CHICAGO, July 29.—The Earl Fruit Company sold California fruit at open auction to-day at the following prices: Pears—Bartletts, $1.50@1.55 per box.

NEW YORK, July 29.—The Earl Fruit Company sold California fruit to-day as follows: Pears—Bartlett, $1.55@2.10 per hox. Nectarines, $2.55@2.60 per half-crate. Plums—Burhank, $1.75@2.60 per half-crate; Satsuma, $1.85; Washington, 65c@$1; Bradshaw, $1.25; purple Duane, $1.35; Quackenboss, 85c@$1.25; Jefferson, $1. Prunes—Tragedy, $1.40@1.45 per half-crate.

CHICAGO, July 31.—The Earl Fruit Company sold: Pears—Bartlett, $1.30@1 65 per box. Prunes—Tragedy, $1 50 per half-crate; German, $1.35@1.40. Plums—Hungarian, $1.30@1.35; Bradshaw, $1.35; Egg, $1.15@1.35; Columbia, $1.20; purple Duane, $1.35.

NEW YORK, July 31.—The Earl Fruit Company sold: Pears—Bartlett, $1.60@1.85 per box; Souvenir de Congress, $1.40@1.50. Plums—Oregon, $1.55 per half-crate; Satsuma, $1.05@1.15; Columbia, $1.

NEW YORK, August 1.—The Earl Fruit Company sold to-day: Plums—Burbank, $1.70@1.80 per half crate; Bradshaw, $1.25; Purple Duane, 95c@1.35; Washington, 60c@$1.15; Columbia, 55c@$1.05. Prunes—Tragedy, $1@1.40; German, $1.10@1.15. Peaches—Decker, $1.55 per box; Crawford, 90c@$1.35; Foster, $1@1.25; St. John, 85c@$1.10. Pears—Bartletts, $1.55@1.65 per box; Souvenir de Congress, $1.40@1.45.

CHICAGO, August 3.—The Earl Fruit Company sold to-day: Pears—Bartlett, $1.50@1.55 per box. Prunes—German, $1.30@1.50 per half-crate. Plums—Egg, 75c@$1.40 per half-crate; purple Duane, $1.35@1.40; Bradshaw, $1.35@1.40; Quackenboss, $1.65; Washington, $1@1.25; Jefferson, 95c@$1. Peaches—Crawford, 80c@$1.10 per box; Foster, 90c@$1.

NEW York, August 3.—The Earl Fruit Company sold to-day: Prunes—Gros, $1.25@1.30 per half-crate; purple Duane, 90c@$1.45; Egg, $1.05@1.35; Columbia $1@1.20; Satsuma, 85c@$1; Washington, 80c@$1; Bradshaw, 90c@$1.30; Jefferson, 80@95c. Peaches—Crawford, 65@$1.30 per box; Decker, 85c@$1.30; Foster, 55c@$1.10. Grapes, Fontainbleau, $1.25@1.35 per half-crate. Pears—Bartlett, $1.25@2.10 per hox.

NEW YORK, August 4.—The Earl Fruit Company sold to-day: Prunes—Gros, $1.70@2 per half-crate; German, $1.30. Plums—Quackenboss, $1.15@1.45 per half-crate; Columbia, $1.10@1.25; Washington, 95c@$1.10; Jefferson, 90c@$1.10; Bradshaw, $1.05@1.35; Burbank, $1.45@2.40; purple Duane, $1.05@1 35; Satsuma, $1.20. Pears—Bartlett, $1.70@1.75 per hox.

CHICAGO, August 4.—The Earl Fruit Company sold to-day: Prunes—Tragedy, $1.20@1.35 per half crate; German, $1.40; Gros, $1.25@1.50. Plums—Bradshaw, $1.15@1.45 per half crate; Quackenboss, $1.40; Columbia, $1.10@1 20; purple Duane, $1 20@1.35. Pears—Bartlett, $1.30@1.50 per hox. Peaches—Foster, 60@80c per box; Crawford, 75@85c; St. John, 65c. Grapes—Fontainebleau, $1.35 per half crate.

THE following is a simple rule for the approximate determination of the cubic contents of a proposed reservoir construction to be made by building a dam across a valley suitable for use for that purpose: Multiply the flooded surface area of the proposed reservoir in square feet by two-fifths of the maximum depth of water proposed. This will give the content in cubic feet. Divide by 2300 to get the content in miners' inches.

The Golden Gate Gas Engine.

There is an active demand for gas and gasoline engines this season, and the packing and canning establishments use them in preference to any other kind of power.

The Golden Gate gas engine, manufactured by Adam Schilling & Sons, 211-213 Main St., San Francisco, has several claims of superiority which are presented as follows: "The engine is provided with positive inlet valves so proportioned as to admit only the right mixture of gas and air to the cylinder, whether the charge be large or small. The valves are placed in the cylinder head, therefore every particle of mixture that passes is in the cylinder ready for explosion. The positive proportioning valves do away with all hand regulating, as required in other gas engines," and several other special features of unusual merit. It is claimed to be the most simple, durable and steady running gas engine made.

Notice to Passengers.

Keep your haggage checks until you reach San Francisco and you will save money hy leaving same at any of our offices, our rates being lower than all others, viz., Trunks, 35 cents each. N. B.—We **do not** have any agents on the trains or steamers. MORTON SPECIAL DELIVERY, 408 Taylor St., 650 Market St., and Oakland Ferry Depot (foot of Market St.). *

—The Shasta County supervisors have ordered the construction of another bridge across the Sacramento river at the mouth of Cottonwood creek.

One-third of all Harvesting Machinery in use is made by the McCormick Co. of Chicago.

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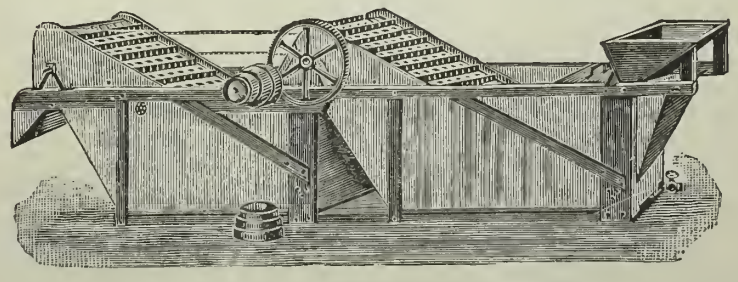

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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Aug. 5, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	133,476	623,921	303,836
Wheat, ctls	240,375	555,353	840,915
Barley, ctls	80,834	379,475	442,608
Oats, ctls	3,120	37,446	33,186
Corn, ctls	3,770	13,487	6,293
Rye, ctls	1,035	3,035	4,054
Beans, sks	4,390	18,655	10,770
Potatoes, sks	12,866	72,076	81,188
Onions, sks	2,333	14,152	13,115
Hay, tons	4,884	16,293	19,458
Wool, bales	1,421	5,779	7,759
Hops, bales	....	130	195

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	100,616	539,772	167,888
Wheat, ctls	212,614	527,683	1,222,023
Barley, ctls	174,751	262,215	296,954
Oats, ctls	1,870	4,488	3,059
Corn, ctls	27	2,311	1,879
Beans, sks	16	12,748	34,093
Hay, bales	188	3,337	2,264
Wool, lbs	....	1,260,711	2,268,000
Hops, lbs	2,513	71,187	31,572
Honey, cases	1	158	963
Potatoes, pkgs	913	3,731	8,344

Grain Freights and Charters.

Market for deep-sea ships in the grain carrying trade remains much the same as previously noted, but is rather easy in tone. Vessels arriving under charter are giving exporters about all the tonnage they can conveniently handle at present. Handy iron ships on wheat charter to Cork, U. K., for orders, usual option, are held as a rule at £1 10s per long ton of 2240 pounds, but this figure is difficult to obtain. According to shippers' views, £1 7s 6d would be about the utmost warranted as a quotation, and if ships were pressed on the market in any noteworthy manner, lower figures would have to be accepted. There are not so many ships reported on the way as a year ago, but the amount of deep-sea tonnage in the harbor is about three times as great as at this date last year, the actual figures being given below.

Charters.

British ship Iverna, 2200 tons, wheat to U. K., Havre, Antwerp or Dunkirk; £1 6s 3d, net.

British ship Hollinwood, 2608 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 6s 3d; direct port, £1 5s.

British ship Cederbank, 2649 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 6s 3d; direct port, £1 5s.

British ship Loch Linnhe, 1307 tons, wheat and barley to U. K., Havre, Antwerp or Dunkirk, £1 11s 3d, net; wheat only £1 10s—chartered prior to arrival.

British steamer Strathgarry, 3264 tons, barley to U. K., discharge at two ports; £1 10s—chartered prior to arrival.

British bark Jordanhill, 2176 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 8s 9d—chartered prior to arrival.

British bark Almora, 1769 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 6s 9d.

British ship Ditton, 2699 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 6s 3d.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive
1896	56,585	36,327	267,307
1895	27,328	4,138	384,166

Flour.

No extensive business has been reported in this commodity the past week. The China and Panama steamers sailing Saturday (the date of our publication) will carry fairly liberal quantities, mostly special brands, contracted for ahead. No special activity on local account. Supplies are more than ample for immediate needs, and the market is fully as favorable to buyers as previously noted.

Superfine, lower grades	$2 25@ —
Superfine, good to choice	2 40@2 50
Country grades, extras	2 85@3 15
Choice and extra choice	3 15@3 35
Fancy brands, jobbing	3 35@3 60
Oregon, Bakers' extra	2 75@3 00
Walla Walla, Bakers' extra	2 75@3 00

Wheat.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	5s5½d@5s 6½d.	5s 5½d@5s 6d
Freight rates,	35@37½s.	26¼@27½s.
Local market,	$0.92½@96¼	$0.95@1.00.

The wheat market in this center was quiet and without noteworthy firmness at the close of last and the early part of the current week. The speculative or Call Board market tended downward most of the time, the decline from Thursday to Monday inclusive aggregating about 2c per cental, although there was a fractional recovery Monday afternoon, December delivery closing at 97⅞c. The spot market was quotably unchanged, but market was devoid of firmness, in sympathy with futures, and full current figures were not readily realized. Purchases for export were made mostly in the interior. Some wheat is still going forward to Australia, but no heavy quantities. Late mail advices from Australia report the wheat maket there rather quiet, with some sales of California wheat at Sydney, and further importations anticipated. Rain was needed in some of the districts of Victoria, but the crop prospect otherwise was in the main favorable. The local market Tuesday and Wednesday was dull, with a weak tone, both on and off the Call Board.

STOCKS OF GRAIN ON AUG. 1ST.

The San Francisco Produce Exchange reports the following stocks of grain, etc., on wharves or in the City Call Board warehouses.

Tons.	July 1st.	Aug. 1st.
Wheat	1,007	1,185
Barley	3,775	7,322
Oats	2,239	1,972
Corn	1,561	1,378
Bran	78	426

The stocks of wheat on Aug. 1st, 1896, in all Call Board warehouses were as follows:

At—	Tons.
San Francisco	1,185
Stockton	19,598
Port Costa	26,757
Total	47,540

As against 188,900 tons on Aug. 1st, 1895. On that date the stock at Port Costa was 134,811 tons, Stockton, 52,251; San Francisco, 1,838.

California Milling, old	$1 00@1 10
Cal. No. 1 shipping, alongside	95@ 97½
Oregon Valley	95@1 00
Walla Walla Blue Stem	1 00@1 10
Walla Walla Club	95@1 00

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, 98¾@97½c.

May, 1897, delivery, ——@1.02.

Wednesday, at regular noon session of Call Board, December wheat sold at 97⅝@97½c; May, ——

Barley.

Further shipments of barley have gone afloat from this port for Europe since last review, mostly if not wholly of the ordinary variety of Brewing. Other vessels are loading with this cereal. A British tramp steamer arrived this week under an engagement to carry barley to two ports in the United Kingdom at £1 10s. Chevalier still fails to receive any noteworthy attention, but efforts are being made to effect transfers, and it is likely quotable values will be established at an early date, probably on the basis of $1 for choice. It is doubtful if materially higher figures will be obtainable on export account. Values for the ordinary variety of Brewing, and for Feed descriptions, are not being well sustained, although quotable rates remain close to the figures stated in review of a week ago.

Feed, No. 1 to choice	66¼@67½
Feed, fair to good	62½@65
Brewing, No. 1 to choice new	75 @80

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, 69@67⅞c; May, 1897, delivery, ——@——c.

Wednesday at regular noon session of the Call Board, Dec. feed sold at 68c.

Oats.

Stocks and offerings of old oats are not heavy, especially of the more desirable qualities, and the latter are being in the main quite steadily held, but buyers take hold slowly at full current figures, confining their purchases, as a rule, to immediate and pressing needs. Market for new crop California oats remains quiet and easy with offerings of the same on the increase.

White Oats, fancy feed	92½@— —
White, good to choice	85 @ 90
White, poor to fair	77½@ 82½
Gray, common to choice	77½@ 82½
Milling	85 @ 87½
Surprise, good to choice	97½@1 02½
New crop Cal. Oats	72½@ 82½

Corn.

There is not much offering, but of most descriptions there is more than enough for the immediate demand. Choice Large Yellow is, as for some time past, in lightest stock and commands the best figures. Large White receives the least attention. This variety in past seasons was in active request for Central America, but prices here were forced to such a high point that the export trade was driven to Mexico and other points.

Large White, good to choice	77½@ 80
Large Yellow	92½@ 95
Small Yellow	95 @ 97½

Rye.

Business in this cereal is slow. Offerings are now mainly new crop, while there is little urgent inquiry for either new or old.

Good to choice, old	72½@ 75
Good to choice, new	65 @ 70

Buckwheat.

This market is without noteworthy feature, and bids fair to remain inactive for some weeks to come.

Good to choice	90 @ 92½

Beans.

Market remains in depressed and generally discouraging condition for the holding and producing interest. With unusually heavy stocks here and in the interior, a new crop near at hand, and no large quantities going outward in any direction, the prospects certainly are not favorable for prices soon being re-established on a satisfactory and profitable basis.

Pea, fair to good, 100 lbs	$1 20 @1 35
Small White, good to choice	1 00 @1 15
Lady Washington	75 @1 00
Butter, small	1 10 @1 25
Pinks	65 @ 80
Bayos, good to choice	90 @1 05
Reds	1 20 @1 30
Red Kidneys	1 25 @1 50
Limas, good to choice	2 15 @2 30
Black-eye Beans	1 35 @1 50

Dried Peas.

With practically none arriving, and an absence of inquiry, values are poorly defined.

Green Peas, California	$1 15 @1 30
Niles Peas	1 20 @——

Wool.

It would be difficult to imagine a market in much worse shape than this one is at the present time. Most operators refuse to talk wool; low prices, long time, or anything else which in ordinary times would tend to develop or increase business, having no effect at present. Advices from Eastern manufacturing centers are very discouraging. Most of our mills are lying idle, while foreign manufacturers are flooding the country with shoddy. It is a queer feature of the wool industry that the lower the price of this commodity the greater the quantity of shoddy turned loose upon the market. Quotations must be regarded as nominal, based on latest sales and not on figures now obtainable.

SPRING.

Humboldt and Mendocino	10 @12
Northern California free	— @—
Northern defective	5½@ 7
San Joaquin Foothill, good to choice	6 @ 7½
San Joaquin, 12 months	4 @ 6½
San Joaquin and Southern, 6 months	4 @ 6
Nevada, as to condition	7 @ 9
Oregon Valley, select	9 @10½
Oregon Valley, low grade	8 @ 9½

Hops.

A New York authority reports the hop market as follows:

Little if anything new has come to the surface in the hop trade, except the fact that some parties from here have visited the hop growing sections in this State and their estimates of the probable yield do not bear out the previous estimates of shortage. It was thought that with reports of so many yards plowed up and others not properly cared for that the yield would fall 40 per cent below that of last year, but favorable weather has kept the vines in healthy condition and as they approach maturity the prospects indicate rather less shortage than estimates of a week or ten days ago. Reports from the Pacific slope and from abroad do not indicate any change in conditions from those previous noted. Very little is doing here for export or with brewers but receipts are so small that the little movement from first hands is gradually reducing stocks. About former prices are asked, but they are little more than nominal and were there any urgency to sell it is uncertain how low a figure would have to be accepted.

Business in hops in this center is virtually at a complete standstill. Holders of 1895 hops are unwilling to let go at prices now offered by dealers, say 2½@3c for good to choice. To contract new freely, 7@8c would have to be paid, but dealers show no disposition to purchase on this basis for forward delivery.

Fair to choice, 1895 crop	2 @4

Hay and Straw.

The market for hay shows no appreciable improvement. Despite the low prices prevailing, arrivals continue of liberal proportions, and receivers find it difficult to keep stocks cleaned up, so as to avoid extra expense of wharfage or trackage, as the case may be.

NEW HAY.

Wheat	7 50@ 9 50
Wheat and Oat	6 50@ 8 50
Oat	5 00@ 7 50
Barley	6 00@ 7 50
Clover	5 00@ 7 00
Stock Hay	4 00@ 5 00
Alfalfa, first cutting	4 00@ 5 00
Straw, ₱ bale	25@ 35

Millstuffs.

There is no scarcity of stocks of any description. Market for most sorts is easy in tone.

Bran, ₱ ton	11 00@13 00
Middlings	14 50@16 50
Barley, Rolled	15 00@15 50
Cornmeal	19 50@20 00
Cracked Corn	20 50@21 00

Hides, Pelts and Tallow.

Market presents nothing of importance to record, being very quiet throughout.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	7 @ 7½	6 @ 6½
Medium Steers, 48 to 56 lbs	6 @ 6½	5 @ 5½
Light Steers, under 48 lbs	— @ 5	— @ 4
Heavy Cow Hides, over 50 lbs.	5 @ 5½	4 @ 4½
Light Cow Hides, under 50 lbs.	— @ 5	— @ 4
Wet Salted Kip	— @ 5	— @ 4
Wet Salted Veal	— @ 6	— @ 5
Wet Salted Calf	7 @ 8	6 @ 7
Dry Hides, round lots, 9@10c	10½@11	8 @ 8½
Dry Kip and Veal, 11 to 16 lbs.	8 @ 9	— @ 7
Dry Calf, under 4 lbs	— @15	— @10

Pelts, long wool, per skin	50 @60
Pelts, medium, per skin	40 @50
Pelts, short wool, per skin	20 @35
Pelts, shearling, per skin	10 @15
Deer Skins, best summer	— @30
Deer Skins, good medium	15 @25
Deer Skins, thin winter	7 @10
Elk Hides	8 @ 9
Tallow, good quality	3 @ 3¼
Tallow, No. 2	2½@ —
Goat Skins, perfect	20 @35
Goat Skins, damaged	10 @20
Kid Skins	5 @ —

Seeds.

There is little mustard seed now here. Market is firm, more particularly for Trieste, of desirable quality, with good inquiry for this sort. This season's crop of mustard, which is very light in this State, is now being harvested.

	Per ctl.
Mustard, Yellow	1 60@1 75
Mustard, Trieste Seed	2 75@3 00
Mustard, Wild Brown	1 75@2 00
Flax	1 50@1 60
	Per lb.
Canary	2½@2¾
Rape	2 @2¼
Hemp	3¼@3½
Alfalfa, Utah	—@ —

Bags and Bagging.

Stocks of grain bags in the hands of importers and jobbers are still of fair proportions,

DRIED FRUIT, POULTRY WANTED.

Parties having Dried Fruit, Grain and Poultry for sale will find it greatly to their advantage to correspond with us before disposing of their produce elsewhere.

W. C. PRICE & CO.,
Grain and General Produce Commission Merchants,
425 Front Street, San Francisco, Cal.

Liberal advances made on consignments. Correspondence solicited. Established 1876. Members Merchants' Exchange and Dried Fruit Exchange.

DEAL WITH US.

WE
Are the only exclusive wholesale dairy produce house on the Pacific coast.
Guarantee the producer better results.
Represent the producer's best interests.
Desire an opportunity to increase your revenue for products.

DAIRYMEN'S UNION OF CALIFORNIA,
No. 113 to 119 DAVIS STREET, SAN FRANCISCO, CAL.

16 TO 1.

Commission Merchants' Hats.

The chances are 16 to 1 that you will be pleased if you go to GROOM & HAGAN for your Hats, at 942 MARKET STREET, under the Baldwin Hotel.

with prices for the same quotably unchanged. Wool sacks are offering at former rates. In prices of other bag stock there are no changes to note.

Grain bags, 22x36, spot	4¼@ 4½
Wool sacks, 4 lb	.28 @—
Wool sacks, 3½ lb	.26 @—
Gunnies	.12 @—
Bean bags	4 @ 4¼
Fruit sacks, cotton	5½@ 7½

Honey.

Scarcely any new crop has been received, and very little is expected, as from all bee districts in this State the season is reported a failure. Apiarists in many localities are now feeding their bees.

White Comb, 1-lb frames	.11 @12½
Amber Comb	7½@10
Extracted, White Liquid	5 @ 5½
Extracted, Light Amber	4½@ 4¾
Amber Colored and Candied	3¾@ 4
Dark Tule	2¾@ 3

Beeswax.

Little doing in this commodity, as much due to limited offerings as to light inquiry.

Fair to choice, ₱ lb	.22@25

Live Stock and Meats.

Hogs are arriving more freely than is warranted by the demand, and are mostly too poor to be desirable. Beef and mutton are ruling fairly steady. Following are wholesale rates:

Beef, 1st quality, dressed, net ₱ lb	5 @—
Beef, 2d quality	4½@ 4¾
Beef, 3d quality	3½@ 4
Mutton—ewes, 4½@5c; wethers	5 @ 5½
Hogs, hard grain fed, light fat	3¾@ 3½
Hogs, large hard	3 @ 3¼
Hogs, soft and feeders	2½@—
Hogs, country dressed	4⅜@ 4⅝
Veal, small, ₱ lb	5 @ 7
Lamb, spring, ₱ lb	5 @ 6

Poultry.

Most kinds have been meeting with slow sale at low figures. One serious drawback to the advantageous disposal of poultry at the present time is that most of it is arriving in poor flesh and is undesirable for killing. This has been especially the case with ducks, many of which have been so skinny that most retailers refused to take hold of them at any figure. Two carloads of Eastern poultry arrived, and this also operated against the sale of the domestic product. Extra large and fat chickens were scarce and were salable at an advance on quotations.

Turkeys, live hens, ₱ lb	12@ 13
Turkeys, live gobblers	13@ 14
Turkeys, young	16@ 18
Hens, Cal., ₱ doz	4 00@4 50
Roosters, old	4 00@4 50
Roosters, young, (full-grown)	3 50@4 50
Fryers	3 00@3 50
Broilers, large	2 50@3 00
Broilers, small	1 50@2 00
Ducks, young, ₱ doz	2 50@4 00
Ducks, old	2 50@3 00
Geese, ₱ pair	1 00@1 50
Goslings, ₱ pair	—@—
Pigeons, ₱ doz	1 25@1 50

Butter.

While quotable values have not been materially changed since last review, the market has been moderately firm for choice to select fresh, both creamery and dairy product. Seriously defective qualities were not sought after, and bad to come into close competition with packed to secure custom. As is usual at this time of year, not much butter is being produced, and the proportion of fine quality is decidedly small. Retailers are now using considerable packed butter.

Creamery extras, ₱ lb	.19 @—
Creamery firsts	.18 @—
Creamery seconds	.16½@—
Dairy select	.17 @—
Dairy seconds	.14 @15
Dairy, soft and weedy	.10 @11
Mixed store	.10 @12
Creamery in tubs	.15 @16
Pickled roll	.15 @16
Dairy in tubs	.14 @15
Firkin, Cal., choice to select	.14 @15
Firkin, common to fair	.11 @12½

Cheese.

Stocks are in light volume, and not much will be produced on this coast during the balance of the season. The market is naturally firm in tone. Some brands well established and in high favor are in a small way commanding more than quotations.

California fancy flat, new	9 @—
California, good to choice	7 @ 8
California, fair to good	6 @ 7
California, "Young Americas"	8 @ 9½

Eggs.

There are no large quantities now arriving from any quarter, and especially are choice to select fresh in slim receipt. Market for the latter sort has steadily favored sellers, with some sales of fancy stock above quotations. Owing to the light supplies of desirable fresh, dealers are drawing eggs out of cold storage, these being given the preference in many instances to hot weather eggs which are shaky and watery.

California, select, large white and fresh	.24 @—
California, select, irregular color & size	.17½@22½
California, good to choice store	.14 @17
California, common to fair store	.10 @12
Oregon, prime	.15 @16
Eastern, as to section and grading	.14 @16
Eastern, seconds	.10 @12
Duck eggs	.15 @17

Vegetables.

There have been few changes in quotable values. Most kinds have been in more than ample supply for immediate needs. Market was, in the main, favorable to buyers. Onions proved an exception, good to choice commanding a slight advance.

Asparagus, Fancy, ₱ box	— —@— —
Asparagus, common to good, ₱ box	— —@— —
Beans, String, ₱ sack	50@ 1 00
Beans, Wax, ₱ lb	1½@ 3
Beans, Garden, ₱ lb	2@ 3
Beans, Lima, ₱ lb	4@ 5
Cabbage, choice garden, ₱ 100	50@ 60
Cauliflower, ₱ doz	40@ 50
Corn, Alameda Sweet, ₱ crate	1 25@ 1 75
Corn, Berkeley, ₱ crate	85@ 1 00
Corn, Vacaville and Winters, ₱ crate	— —@— —
Corn, Green, ₱ sack	50@ 75
Cucumbers, Alameda, large box	10@ 25
Egg Plant, ₱ box	50@ 75
Garlic, ₱ lb	1½@ 2½
Okra, Green, ₱ box	50@ 75
Onions, Red, ₱ cental	—@ —
Onions, Yellow, good to choice	40@ 50
Peas, Green, ₱ sack	50@ 1 00
Peppers, Green Chile, ₱ box	25@ 50
Pepper, Bell, ₱ large box	50@ 75
Rhubarb, ₱ box	35@ 50
Squash, Bay, ₱ large box	15@ 25
Tomatoes, River, per large box	40@ 50
Tomatoes, Vacaville, ₱ box	10@ 20

Potatoes.

No changes of great moment have occurred in this market the current week, either in quotable values or the general tone. Sacramento river stock was in a little better supply than at date of last review, and market for same was slightly easier. Salinas Burbanks were quite steadily held, offerings not being allowed to get much beyond the immediate demand. Sweets arrived in small quantity from Sacramento river district and were held mainly at 2½@3c per pound.

IN SACKS.

Early Rose, River, ₱ cental	40@ 50
Peerless, River	40@ 50
Garnet Chile, Mission	50@ 65
Burbanks, River	40@ 50
Burbanks, Salinas	60@ 85

The Fruit Market.

Fresh Fruits.

Market was more liberally stocked with mid-summer fruits than at any previous date the current season, and prices for most varieties averaged lower than last quoted. The late warm weather has been ripening fruit very rapidly, causing some kinds to arrive faster than they could be conveniently handled.

Pears of the Bartlett variety were in particularly heavy receipt, and were salable only at low figures. Culls or seconds hardly paid for the trouble and expense of getting them to market. With Bartletts so cheap, other pears naturally fared badly.

Peaches were plentiful and low, but the market gave promise of ruling more favorable to sellers at an early date. Canners are likely to be soon in better shape for the handling of this fruit.

Plums made a better showing, both as to quantity and quality, than at any previous date this year. Prices were lower and market was easy at the decline.

Prunes did not arrive in large quantity, but with other fruits in abundance, very firm figures were not obtainable.

Nectarines were in quite fair supply, with the market easier and lower for Red, while White were almost unsalable, this variety being in poor request in the fresh state.

Apples were offered only in moderate quantity, but the supply was equal to the demand, and the market lacked firmness, except for strictly fancy, with not enough of the latter to warrant quoting in a regular way.

Figs did not make much of a showing, but were more plentiful and lower than during the preceding week, with the demand confined to few buyers.

Grapes offering are mainly of the early varieties, such as Fontainebleau or Sweetwater, and tend in buyers' favor, consumers not caring much for these. A few black grapes of the Rose of Peru variety were on the market, and such as were ripe sold fairly well.

Watermelons, cantaloupes and nutmeg melons were in good supply all the week, and buyers experienced no difficulty in operating at low figures.

Strawberries, raspberries and blackberries were in decreased supply, and prices averaged slightly better than had been ruling.

Apples, Gravenstein, fancy, 4-tier	75@ 90
Apples, Gravenstein, 50-lb box	60@ 75
Apples, Red Astrachan, 50-lb box	25@ 50
Apples, Green, ₱ 50-lb. box	30@ 60
Crabapples, ₱ box	25@ 50
Figs, Black, ₱ 2-tier 15-lb box	75@ 1 00
Figs, Black, ₱ 1-tier box	40@ 60
Figs, White, ₱ box	40@ 65
Nectarines, Red, ₱ box	40@ 50
Nectarines, White, ₱ box	15@ 25
Prunes, Tragedy and German, ₱ crate	50@ 60
Peaches, fancy wrapped, ₱ box	30@ 40
Peaches, good to choice, ₱ box	20@ 35
Peaches, Freestone, per ton	12 50@17 50
Peaches, Cling, per ton	15 00@20 00
Pears, Bartlett, ₱ ton	14 00@18 00
Pears, Bartlett, No. 1, per box	30@ 50
Pears, Bartlett, No. 2, per box	15@ 25
Pears, other kinds, ₱ box	15@ 30
Plums, choice, large, ₱ box	25@ 40
Plums, other kinds, lb box	15@ 30
Plums, Japanese, ₱ crate	50@ 65
Plums, per ton	15 00@20 00
Nutmeg melons, ₱ box	1 00@ 1 50
Watermelons, per 100	5 00@12 00
Canteloupes, per crate	1 50@ 2 50

Berries.

Blackberries, ₱ chest	2 00@ 3 50
Currants, Red, ₱ chest	— —@— —
Raspberries, ₱ chest	3 00@ 4 00
Strawberries, Longworth, ₱ chest	2 00@ 3 50
Strawberries, Large, ₱ chest	1 50@ 2 50

Grapes.

Fontainebleau, Cal., per crate	25@ 40
Fontainebleau, Cal., per box	15@ 30
Rose of Peru, ₱ crate	60@ 75

Dried Fruit.

Advices by mail have the following concerning the dried fruit market in New York:

As the season advances there is more urgency to reduce supplies and all grades of apples are weak. Jobbing demand continues unusually good for so late in the season, but competition is so great to secure the passing trade that prices lean strongly in buyers' favor and the tendency is downward. Fancy evaporated still job at 6@6¼c, but the latter is exceptional and choice fruit is offered freely at 5¼@5½c. Prunes are generally held at 5c, but offers a fraction less would doubtless be quickly accepted, and we reduce the quotation to 4¾@5c, while lower grades drag at irregular figures. Prime held in interior storage could be obtained below figures current here. The Government crop report for July reports a decided drop in the condition of apples the month of June having been very unfavorable to the growing crop, but in many sections the outlook continues favorable, and there is a disposition among makers to sell stock for future delivery. Speculators consider current prices low enough to be fairly safe, and considerable business is reported in the new fruit for October and November delivery on the basis of 4¾@5c for prime, the latter figure for stock guaranteed wood dried. Sun-dried apples receive little attention and quotations are somewhat nominal. Cores and skins have not had much call this week and while 3c is maintained for choice, poor offer down to 2½c without attracting bids. New chops are obtainable—future delivery at 1¼c, with offers usually a fraction less, and new cores and skins for late delivery are offered at 1½c. Peaches are very quiet and nominal. Raspberries are held at 15c for old, but very dull; new offered as low as 15⅞c to arrive. Huckleberries and blackberries are held with some confidence at unchanged prices. Scattering lots of new cherries here are offered at 10½c, but receiving little attention; old held at 9½@10c, but also very dull. California fruit jobbing very well at steady prices; recent sales of new Royal apricots at 8@8½c.

In all essential respects, the dried fruit market in this center remains much the same as at date of last report. Inactivity is still a prominent feature, with little doing on Eastern account. The local Fruit Exchange endeavored to establish all trade with the East on a cash basis by passing a resolution that all sales to Eastern buyers be for net cash against bill of lading accompanying the goods. This is meeting with opposition. The Wholesale Grocers' Association of Nebraska has resolved that all purchases of California dried fruit made by its members should be on a 30 days' basis, one per cent discount for payment in 10 days, and that goods should be shipped to buyer direct. Doing the business on a net cash basis would certainly be for the best interests of the producer and dealer here, but there are some doubts entertained as to the plan being made a success at present. A few Royal apricots have been sold up to 6¾c aboard cars, but some claim this figure is not warranted as a quotation. Fancy Moorparks are scarce and against buyers. New crop peaches of poor quality have been offered down to 3½c. A little business is said to have been transacted at 4c aboard cars at producing points for good average stock. For choice to select 5½@6c, San Francisco delivery, may possibly be realized when such come on the market. Present indications are that the output of both nectarines and apples in this State will be light. For prunes of new crop 3½c is now quoted for the four sizes, but some packers are not inclined to let go at this figure. There is no large stock of old dried fruit of any description, and very little doing in the same.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	6¼@ 6¾
Apples, in boxes	4½@—
Peaches, unpeeled	3½@ 4
Peaches, peeled	9 @11
Pears, peeled and sliced	4 @ 7
Pears, quartered	4 @ 7
Plums, pitted	3 @ 4
Prunes, in sacks, 4 sizes	2½@—
Prunes, in sacks, small sizes	1½@ 2

COMMON SUN-DRIED.

Apricots, ordinary	— @ —
Apples, sliced	2 @ —
Apples, quartered	— @ —
Peaches, unpeeled	2½@ 3
Pears, quartered, 1½@3c; sliced	3 @ 3½
Plums, unpitted	1 @ 1½

Raisins.

There is a moderate business doing in 1896 raisins for early October shipments at 2¾c for 2-crown; 3¼c for 3-crown, and 3¾c for 4-crown, Fresno delivery. Asking figures for new London layers range from $1@1.25 per box, as to brand and grade. Eastern dealers are being offered 3-crown London layers at $1.10.

Boxes, London layers, 20-lb box (Usual advance for fractions.)	75@ 85
Loose Muscatel, 4-crown, ₱ lb	4 @4¼
Loose Muscatel, 3-crown	3½@3¾
Loose Muscatel, 2-crown	3 @3¼
Sultanas	4 @ —
Seedless Muscatel	3¼@3½

Citrus Fruit.

Oranges are virtually out of stock and no longer quotable, the season having ended. The coming crop will be light, and indications are that the market will rule firmer than last season.

Lemons are offering in moderate quantity, with present demand not very active. Prices on choice to select are being tolerably well sustained, but for low grades the market lacks firmness. Limes are in fair supply and market rather easy.

Oranges—Wash. Navels, ₱ box	— —@— —
Cal. Mediterranean Sweet	— —@— —
Cal. Seedlings	— —@— —
Lemons—Cal., select, ₱ box	3 50@— —
Cal., good to choice	2 50@ 3 00
Cal., common to good	1 50@ 2 50
Limes—Mexican, ₱ box	5 00@ 7 00
Cal., small box	1 00@ 1 25

Nuts.

There are no evidences of any noteworthy business in this line. New crop almonds and walnuts are offering to arrive, but prices for the same have not yet been established. The almond crop will be light, but of white walnuts there will be a liberal yield, with quality above the average.

California Almonds, paper shell	7 @ 8
California Almonds, soft shell	4 @ 6
California Almonds, standard	3 @ 3½
California Almonds, hard shell	2 @ 2½
Walnuts White, paper shell	11 @12
Walnuts White, soft shell	9 @10
Walnuts White, Cal., hard shell	7 @ 7½
Peanuts, Cal., fair to prime	5½@ 6
Peanuts, Eastern hand-picked	5½@ 6½
Pine Nuts	12 @14

HOLCOMBE BROS.

116 California St., San Francisco, Cal.

Brokers

—IN—

DRIED FRUITS

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WOOL, GRAIN, FLOUR

—AND—

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The Russian Patents Sustained by the United States Courts.

To whom it may concern:

It is our duty to give notice that on July 10th, 1896, United States Judge Hoyt H. Wheeler, sitting at Burlington, Vt., rendered a decree in the case which has been in litigation for some years between ourselves as plaintiffs and "The Moseley & Stoddard Mfg. Co.," defendants.

The decree sustains the patent rights owned or controlled by ourselves and BROADLY COVERS ALL DIRECTLY DRIVEN STEAM SEPARATORS OR STEAM MILK TESTERS. Under this decree every user of one of these machines (not manufactured and sold by us) becomes liable, as the user of an infringing machine.

Steps will be immediately taken to properly reach every such user, and hereafter every buyer of such a cream separator or milk tester made by any other manufacturers than ourselves will have the certainty of a law suit, with the positive assurance of a decree against him for damages and an injunction preventing further use.

The ruthless invasion of separator patent rights which has been extensively carried on for years must now stop, and that others may not in the future place themselves in the unfortunate position in which infringers now find themselves, we suggest that before attempting further use of such infringing machines they should write us or have the advice of their attorneys.

Cream separator patent rights have been so extensively infringed during the past few years that the general public has come to believe that infringement might be continued with impunity, and this in the face of the numerous warnings which we have constantly given. Some years back we secured control of, and license under all the foundation patents on centrifugal machinery. This cost us many thousands of dollars and we consequently cannot allow invasion of our rights. Respectfully,

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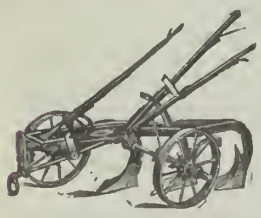

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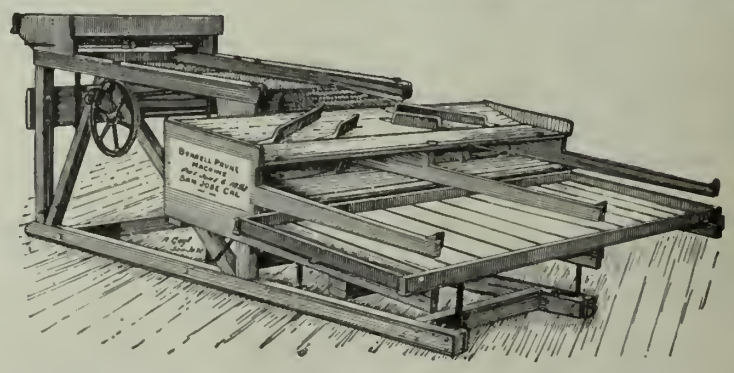

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THE PACIFIC RURAL PRESS
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Vol. LII. No. 7. SAN FRANCISCO, SATURDAY, AUGUST 15, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.

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Eucalyptus Rostrata.

Mr. Abbot Kinney of Lamanda Park, Los Angeles county, is unquestionably right in his new book on the eucalyptus in commenting upon the *rostrata* as a species which should be far more widely distributed in California, because it will succeed in many trying situations where other species have disappointed planters. Very early in the introduction of eucalyptus in California nurserymen around San Francisco offered mainly two species called the "blue gum" and the "red gum"—the former *globulus* and the latter said to be *rostrata*. But it was not *rostrata*, but was in most cases *viminalis*, consequently when planters bought "red gums" on their Australian reputation as hardier than the *globulus* they got a tree which is indeed somewhat hardier, but not possessed of the drouth and frost-resisting qualities of the *rostrata*. No doubt hundreds of people have at this time trees which they suppose to be the "red gum," but which are not. For this reason we reproduce from Mr. Kinney's book at this time his excellent portraits of the *rostrata*, both in tree form and in blooming branch, so that our readers may judge of the identity of the specimens which they have been cherishing in some cases for a quarter of a century. As we have said, the probability is that very few will find that they have the tree they expected to secure.

The *rostrata* is evidently one of Mr. Kinney's favorites among the eucalypts, because his description of it is one of the best in his book. We shall use his words in the following sketch of the character and adaptations of the species:

Eucalyptus rostrata is a stocky tree, about 100 feet tall when mature, though occasionally observed to be 250 feet. It contains a considerable amount of timber for its height. The tree is widely distributed throughout the interior of Australia, along flood courses and on wet lands.

Just as its desert habitat would indicate, we find it resistant to extremes of heat and to more cold than the coast species of eucalyptus can stand. Our experiments show *Eucalyptus rostrata* to be the all-round hardiest species of eucalyptus introduced into California. I am confident that it will succeed in Arizona, where so many eucalypti have failed. One of our surprises was the drought-resisting power of this species. It is one of the best in this respect.

EUCALYPTUS ROSTRATA ON NEVADA AVENUE, SANTA MONICA.

FOLIAGE AND FRUIT OF EUCALYPTUS ROSTRATA.

It prefers and does best in heavy to wet lands, but grows well also on our dry plains in strong soil with 10 to 15 inches of rain. While not naturally often found near the Australian coasts, my experiments at Santa Monica demonstrate that a little back from the bluff it thrives with vigor on our coast.

In its first years it is not attractive, but after three or four years the foliage seems to become brighter and greener, and, when the new shoots are coming on, it is the finest green of any of the eucalypti we have. The timber of this tree is highly valued, especially for its durability in ground and water. This quality is attributed to the large percentage of kinotannin and kino-red the wood contains.

In the San Gabriel valley *Eucalyptus rostrata* is one of our hardiest trees and a fast grower. One of the earlier-planted *rostratas* is at the place of Dr. Wernigk, in the Alhambra. I have a very fine specimen of *Eucalyptus rostrta* in a foothill gorge on my ranch that has thriven splendidly among the native growth. Eucalypti, as a rule, do not thrive in California on uncleared lands in campetition with the local scrub or trees. There are plenty of *Eucalyptus rostratas* about Santa Monica, especially on Nevada avenue and on the Heights. At Hon. Ellwood Cooper's estate, near Santa Barbara, there are some fine old groves of *Eucalyptus rostrata*. At that place it has proved to be one of the few self-seeders. In the rich little valley at Ellwood numbers of *rostratas* have started from the seed naturally and grown into little groves.

Dairymen Ask for More Time.

The dairymen of this and adjacent counties who contribute to the milk supply of San Francisco make a reasonable request when they ask that some modification be made in the Board of Health's rule that no milk be sold in the city after October 1st, coming from herds that have not been subjected to the tuberculin test. The owners or representatives of some of the largest dairies were present at a meeting with the Board of Health on Tuesday and many interesting points were brought out in the discussion. Without exception every one favored the postponement of all action until the next session of the Legislature, at which the dairymen expect to secure the passage of an act appropriating money to recompense them for the cows found diseased and slaughtered. They ask the Board to delay action until after the Legislature met, about April 1, 1897. W. J. Martin, a member of the new Board of Health, appointed in San Mateo county, said more time would be required in his county. Mr. Taylor of the Millbrae dairy, Veterinary Surgeon Pierce of Oakland, and others spoke of the difficulty in getting tests made within the time provided by the Board of Health. After listening to the various speakers, Dr. Morse of the Board of Health announced that the board would take the matter under advisement.

PACIFIC RURAL PRESS.

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Registered at S. F. Postoffice as second-class mail matter.

ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, August 15, 1896.

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The Week.

Weather and Crops.

The week has seen a continuation of seasonable weather, with high temperature in the interior and moderate along the coast. Everything has favored harvest work and due progress has been made.

The following data for the week ending 5 A. M. Wednesday, Aug. 12, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	....	.04	.11	.17	68	54
Red Bluff	....	....	.16	.02	100	62
Sacramento	....	....	.04	T	*	54
San Francisco	....	.04	.01	.02	66	52
Fresno	....	.06	T	T	102	58
San Luis Obispo	....	.04	T	*	82	48
Los Angeles	....	T	T	.04	82	54
San Diego	....	T	....	.04	76	60
Yuma	....	.32	.01	.32	108	72

* Indicates no record.

Fearful Heat at the East.

August frequently brings waves of torrid heat to the country east of the Rocky mountains, but probably nothing on record equals the fearful experience of the present week. It is telegraphed from New York that, measured by results in human misery, the present hot spell is, perhaps, the worst ever known in that city. Everything conspired to make the last few days almost unbearable. Added to the great heat, has been the high percentage of humidity, and there has been very little wind to bring relief. Worse than all, the nights have been terribly hot, and to the weakened condition of the victims, due to the lack of proper rest, must be attributed many deaths from sunstroke. On Tuesday, at its highest point, the temperature was 94° by official record, three full degrees higher than any previous record in the present hot spell. Everywhere throughout the East the heat raged and the people fell. The following extracts from telegrams give some faint idea of the trying conditions which held from day to day:

Physicians in all parts of New York city were worked to the limit of their endurance. Hospitals were overcrowded and overworked. There were not enough ambulances to answer the continual calls, so the patrol wagons were pressed into service. Trained nurses were in great demand at the hospitals, and new appliances for the treatment of sunstroke were in almost constant use. The heat fell like a plague upon the city.

Boston's official temperature was not above 90°, yet the weakening affects of the two previous scorchers show itself in a larger mortality list than any other day of the year. The dead number ten. Possibly fatal cases are as many more, while the number of prostrations is hard to estimate, but will run well toward fifty. From all over New England the same story of intense heat comes. The Waltham watch factory is closed. Letter carriers in Millford could not deliver the mail, for the mercury touched 98. At Mariboro ten horses in the water works basin died from the effects of the heat.

The temperature Tuesday afternoon at New Haven, Conn., was 93°, and three deaths resulting from prostration by heat and sunstroke occurred. Three deaths from heat were reported at Philadelphia, the thermometer reaching 98°.

On Tuesday the weather began to moderate at Chicago, although the thermometer registered 92, being only one degree lower than Monday. The deadly effects of the high temperature, however, continued, and thirty fatal cases of sunstroke were reported at midnight Tuesday with the list still incomplete. About fifty cases of prostration, more or less serious. During the week twenty-eight persons have been locked up in the Detention Hospital, all of whom had been driven crazy by the heat. On Tuesday there were about 800 dead horses still unremoved on the streets, the city being unable to secure sufficient assistance to cart as many away as daily succumb to the heat. The Mayor issued an order guaranteeing $10 to any one who would remove one of the cadavers.

These are a few of the distressing details which will indicate what a tide of discomfort and bereavement has flown upon our eastern country. But it is difficult in our land of moderation and of dry air, which draws the sting from high temperatures, to fully appreciate the trial through which our friends have been called upon to pass.

Government Dairy Expert Coming.

Major H. E. Alvord, chief of the Dairy Division, Bureau of Animal Industry of the Department of Agriculture, will make an official visit to this coast in September and October. Major Alvord expects to reach Sacramento September 15th, so as to act as judge of dairy stock at the State Fair, and otherwise to participate in the extra dairy occasion and products display which the society has arranged for this year's State Fair. After the State Fair Major Alvord expects to visit the dairy regions of southern California and attend a meeting of the Southern California Dairy Association. After that will come the State Dairy Convention of September and visits to dairy regions in the central part of the State. Early in October Major Alvord will go to Oregon, where several important meetings have been arranged for. His visit to this coast will be warmly welcomed by our dairymen, for he is an expert of the highest order and much can be learned from his addresses and conversations.

Uncle Sam Will Make His Own Rates.

Judge Welborn of the United States Circuit Court rendered a decision in Los Angeles on Tuesday which is in effect that the Government has the right to fix rates for transportation of troops, or any other Government business, including the mails, over any railroad. It is estimated that the decision will make a difference of from $45,000,000 to $50,000,000 in amounts paid by the Government every year for transportation of mails, troops and other things. The following statement will be read with much interest:

The suit of which this decision is the outcome was brought by the Atlantic & Pacific road, backed by all other land grant roads, as a test case. A trooper who traveled from Albuquerque, New Mexico, to Prescott, Arizona, refused to pay full fare, and tendered the conductor just half the regular price of a ticket. The conductor refused to accept this, and, after transporting the trooper, the company sued the Government. The case was argued before Judge Welborn several months ago. Judge Terry appeared for the Atlantic & Pacific and Joseph H. Call for the Government; J. H. Herrin for the Southern Pacific. It was not intended by the railroads that the decision should be so far-reaching, but it appears that the decision affects not only the railroads which have land grants, but all roads, and gives the Government the right to fix rates not only for its own business, but for all business done by all railroads, provided the rates are such that a profit ensues for the road.

The railroad attorneys say no appeal will be asked for.

Fruit Shipments.

The terrific heat at the East has interfered somewhat with the fruit business by piling up supplies of Eastern fruit, and our shippers have given the Eastern peach crop the right of way. It is likely that the heat may result in a better demand for California supplies later in the season, for it has undoubtedly swept away much of the Eastern product. It has been a very tedious spell of weather and for its duration, at least, can be classed as remarkable. The high temperature in the prairie country lasted twenty days, in the Western Gulf States a fortnight and on the Atlantic seaboard a week. On Wednesday the spell was broken by a cold wave from the northwest. California shipments to the East are slightly less than for the last two years up to this date.

Shipments to London continue. Tuesday night another California Fruit Transportation Company's train of five cars loaded with fruit for the London market left Sacramento. The fruit was of the very best quality and was furnished by Frank H. Buck of Vacaville, Porter Brothers Company of Sacramento, Sol Runyon and S. I. Roper of Sacramento, Oakshade Fruit Company of Davisville, and the National Fruit Association, one car each. These shippers were very glad to escape the Eastern markets, as the same are glutted with fruit, and prices realized in New York and other Eastern markets during the past few days will cause a loss to the majority of shippers.

Potatoes for the East.

THE market here is flooded with potatoes, while in the East there is a brisk demand for the commodity, and the reduced rate is made to enable California shippers to get rid of their surplus stock. The Southern Pacific Company has issued a new rate on potatoes to points in Texas. From California terminals and all main line points to points in Texas a rate is made on potatoes, in carloads, 30,000 pounds minimum, of 50 cents per 100 pounds. This is made as against the prevailing rate of 75 cents per 100 pounds. The low rate will take effect on the 15th inst. and will continue in force until September 30th.

Pith of the Week's News.

A RUNAWAY trolley car on the Columbia & Donegal Railroad, at Lancaster, Pa., on Monday, killed seven persons and injured fifty more. The brake rigging broke on a steep grade.

THE sun's eclipse, August 10th, was clearly visible at Yokobama and at Tokio. Northward, however, in which direction the astronomers proceeded, the sky was cloudy and observations were impossible.

CHOLERA again shows an increase in Egypt and anxiety is felt at Cairo, on account of absence of reports from the camp of Egyptian forces on the Nile. It is feared that a serious condition exists there.

MISS CLARA BARTON, president of the American branch of the Red Cross Society, has started on her return to the United States, her mission of distributing relief to the Armenian sufferers having been ended.

THE Pacific Coast Steamship Company's steamer St. Paul went ashore Aug. 9, at Pyramid point or Point Joe, six miles from Monterey, striking head on at full speed. No lives were lost, but the ship and cargo are thought to be irreclaimable.

A DISPATCH from Key West, Fla., says: It is openly declared here that Captain General Weyler has reached an understanding with the chief insurgent leaders, and that negotiations will be begun with a view to the cessation of hostilities in Cuba upon terms satisfactory to all concerned.

DETAILS have been received at Capetown of a decisive victory last week by 700 British troops over a native Matabele force estimated at 5000 to 7000. The latter fought desperately and bravely charged within a few yards of the British rapid-fire guns. About 500 Matabele warriors were slain during the engagement.

QUEEN VICTORIA has issued a message to the nation, thanking them for their expressions of loyalty and affection as the period approaches at which the length of her reign will have exceeded that of any other English monarch, but asking that any national celebration shall not be observed until she has completed sixty years of her reign. Queen Victoria was crowned on June 28, 1838.

THE plans for Li Hung Chang's visit to the United States have been greatly curtailed. He will hurry home in haste, and it is hinted that this is due to intrigues against him in China. He will arrive in New York August 21, Friday, and will hold his first reception on Saturday, the following day. On Sunday, August 23, he will take an early train for Philadelphia, where he will lunch and remain for a few hours. During the afternoon he will proceed to Washington, where he will remain the week. He will then go direct to Vancouver, B. C., where he will embark for China.

Gleanings.

THEY are preserving orange peel in alcohol in Riverside.

DR. DAVID F. FOX has been appointed county veterinarian of Sacramento county.

THE Gridley cannery has been running overtime all last week, many evenings the employees being kept busy until 10 or 11 o'clock, with short intermissions for meals during the day.

AMONG the new exhibits at Blythe's Downey Chamber of Commerce is a Golden Tankard beet weighing twenty-seven pounds, raised by E. Jarvis, and pulled four months from the time the seed was planted.

AFTER a careful inspection of the Porterville citrus orchards the conclusion is that they are loaded fully for fine fruit. The hot weather caused some uneasiness for fear of too many dropping, but it has proved groundless.

THE J. C. Ainsley cannery at Campbell is now running on peaches, and will also start on pears shortly. Prunes are coming in very slowly to the drier so far. The cool nights and mornings had a tendency to keep the ripening process back.

THE Sanger Lumber Co.'s flume is bringing lumber down from Sequoia mills to the yards at Sanger at the rate of 125,000 feet per day. The shipments in July were the largest since the flume was built, aggregating nearly 4,000,000 feet.

THE Fresno *Expositor* says that over 200 cars of watermelons have been shipped from Fresno, each car containing from eighty-five to two hundred dozen. Prices at the beginning of the season were $1.50 per dozen and have gradually dropped to 75 cents.

THE number of carloads of green fruit shipped to the Eastern markets this season up to and including Sunday, the 9th inst., amounts to 1854. Up to the same time last year and the two preceding years the shipments were as follows: 1895, 2093 carloads; 1894, 2683 carloads; 1893, 1991 carloads.

FARMERS of Arroyo Grande valley this year planted out a considerable acreage to sugar beets as an experiment. The beets grew well and bear a good analysis. A mass meeting of these beet raisers was held at Arroyo Grande to consider methods of handling the crop. It was decided to ship this year's crop to the factory at Alvarado. Next year's beets will probably be made into sugar there, since C. R. Callender and other citizens have in view the construction of a factory by that time.

HUNDREDS and hundreds of tons of fruit have been stacked up on Jackson street wharf this week and some has been thrown into the bay. The uncalled for fruit consists mostly of pears. So many of them have been shipped here that the market is overstocked and the commission men and canneries to whom they are consigned refuse to accept them. Consequently Chief Wharfinger Root had to dispose of them as he did 1000 bags of onions that recently blocked Clay street wharf. They were given to the poor people and charitable institutions of the city.

AT the meeting of the State Board of Trade on Tuesday Will E. Fisher sent a communication inviting the Board of Trade, the Merchants' Association, the Chamber of Commerce and the Manufacturers' and Producers' Association to confer and agree on some plan for permanent exhibitions of California's products in the East and the general advertising of the State's resources. On motion of Senator Perkins, a special committee, consisting of W. H. Mills, E. W. Maslin and Secretary Filcher, was appointed to confer with representatives of the other associations and report at the next meeting.

A NUMBER of farmers on the San Joaquin ranch in Orange county have made a large sale of barley, 65,000 sacks being

sold, and is being shipped to San Diego by rail, where it will be loaded on a vessel and sent to Europe. The price paid is said to have been 67½ cents per cental.

THE Yreka *Journal* speaks as follows of the Siskiyou county creameries: "There are at present four creameries in the county, fitted up with the most modern machinery. The farmers who carry their milk to the creameries find it much more profitable than by making their own butter."

THE overland train was running at a lively rate of speed when a Wyoming steer was encountered in a cut opening out upon an embankment about twenty-five feet high. The shock threw the engine, tender and every one of the four coaches off the track, making one of the worst looking wrecks imaginable.

ACCORDING to report a power station and cold storage plant at Petaluma are almost assured. It is conceded by everybody that the projected enterprise is of greater moment than Petaluma has had a chance to secure in a long, long time. One purpose anticipated is to store eggs when low and hold them for an advance, but it would also be useful for fruit and dairy purposes.

JAMES H. GARRISON, says the Redlands *Citrograph*, is making for the trade an exceedingly nice article of lemon syrup. It is absolutely pure, the lemons growing on Mr. Garrison's place and those of his neighbors, and the sugar is made in this county. Quite a demand is springing up for the syrup, and we look for a yet larger increase as rapidly as its merits become known.

AT the first meeting of the directors of the Bear River Creamery reports of the business of the month showed that nearly $260 had been distributed back to the farmers in cash or the product of the creamery. The major part of the butter made was consumed in the vicinity. There is every reason to believe that the number of cows in the vicinity will increase greatly in the next few weeks.

THE interests of the State demand, says the Vacaville *Reporter*, that the next Legislature pass laws which will improve the system of road building, which has been current in California. It is probable that a beginning will be made towards the construction of some State highways, under a system fashioned on the line of a similar statute adopted some years ago in Massachusetts, and which has given entire satisfaction.

ACCORDING to the Vacaville *Reporter* there are in the neighborhood of 1000 acres of flax between Rio Vista and Suisun. The flax will be threshed with harvesters, quite a number of which are now running. One of these is run with a traction engine. The flax grows from 18 to 30 inches high. On summerfallow it is thought the yield will be about ten sacks per acre, 135 pounds to the sack. The price of the seed is from $1.75 to $2 per cwt.

THE sugar factory at Alamitos, near Anaheim, is in progress. The ground has been surveyed and a big gang of men are clearing and leveling. The Southern Pacific will build a siding to the new factory very soon—when the right of way is secured, in fact—and material will soon be moving. Four thousand acres of beets will be planted next season, and the new factory will probably commence slicing about the middle of next July.

THE management of the Hanford cheese factory, says the *Sentinel*, was placed in the hands of A. B. Crowell three years ago. The period during which he has been in charge has been one of unusual depressions in business, but the business of the factory has doubled and the demand for the product cannot be met with the present supply of milk. Recently several farmers have begun to collect a dairy and the milk supply has begun to increase.

THE Hanford *Sentinel* claims that the quotations for raisins by Cutting Packing Co. are two low by ¾ of a cent. Mr. Dunham of the Hanford Dried Fruit Co. says they can't fill orders at those prices if producers will refrain from letting their goods go at such a depressed figure. There are so few 4-crowns this year that the price will be about 5 cents. The whole crop is short and the Cutting Co. is doing a bad job for the producer by its circular of prices.

THE Wheatland *Four Corners* says that hops are coming on in good shape. The crop will be heavy and easy to pick. Decreased acreage, however, will make the Wheatland shipments short nearly 150 tons. Picking will commence about the 20th. Hop pickers are coming in and seeking camp grounds. The pickers will undoubtedly find the picking better this season than usual, owing to the fact that the growers do not intend to let the hops get overripe before picking.

SANTA CLARA county is to have an old-fashioned county fair this year, which is assured by the joint action of the Board of Trade and the Agricultural Society. The former will have control of the pavilion, and promises a complete exposition of the agricultural and horticultural products of the county. In addition there will doubtless be many other exhibits, illustrating the varied industries of this community. The Agricultural Society will have charge of the stock display, speed programme, etc.

L. U. SHIPPEE of Stockton died last week, after a lingering illness. Mr. Shippee was one of the foremost men in the State and a few years ago he was prominently referred to in connection with the office of Governor. He had for thirty years been a leading business man, farmer, stockraiser and broker in San Joaquin county. For many years he was a director of and leading spirit in the State Board of Agriculture and at one time its president.

THE Oregon *Agriculturist* reads its parish a lesson in these words: Oregon eggs are less in San Francisco than other brands on account of the slovenly manner and bad condition in which they are packed. This looks bad for Oregon. The shipments of poultry to San Francisco have not proved a success, the high freight rates and long time taken in transit with heavy death rate making a loss to the shipper. One carload loaded at Salem and Eugene is reported to have lost over $500.

THE Hanford *Sentinel* advises the farmer who is discouraged with the result of the year's work to take a trip of ten or fifteen miles east of Traver. Not a spear of anything green is to be seen, except wild sunflowers and joint grass, yet cattle and a large band of jack rabbits roam about the fields and seem to be in good condition, especially the jack rabbits. These pests have destroyed what little grain and alfalfa the farmer sowed, being unprotected by fence.

THE Yuba city cannery has had a hard tussle with the peach crop. Superintendent Pratt told a reporter the other day: "Of course, the rush will continue, but we have the upper hand now. I tell you but I thought we were hopelessly swamped several times, but my help is the best and worked early and late. The fact of the matter is that we have had a much larger peach crop than ever before known here. We have handled more than our share. The growers generally, are pretty well satisfied with the prices and the yield. Of course, there are exceptions."

LEROY CRADDOCK, manager of the Fowler Home Packing Company, says the Fowler *Ensign*, is probably as thoroughly posted upon the present outlook of the raisin crop as any one else, having personally examined a large number of vineyards in this and Kings counties, and he says that the vineyards west of Fresno and around Oleander and Hanford will yield fair crops. Around Fowler they will be very short. In the Lone Star neighborhood the crop will be still shorter than around Fowler, and many vineyards will not be picked at all. Taking the whole country over, he estimates there will be about two-thirds of an average yield.

SALINAS VALLEY has been making barley records this year. According to the *Index* Robert Porter of Blanco has threshed from eighty acres of summer-fallowed land about 3000 centals of Chevalier barley, unusually bright for that locality. Charles Barden of Blanco gets about 2700 centals of Chevalier barley from sixty acres, weighing fifty-six pounds to the bushel, or two pounds above the standard. Herman Mayne of El Sausel gets from forty acres 860 sacks of Chevalier, weighing one hundred and twenty-seven pounds to the sack, or 113,030 pounds in all. He expects a larger yield from his summer-fallowed bottom land.

As an illustration of the danger of introducing a new standard of exchange values, comes the following in the Oroville *Register*: "Two sons of William Hendricks of Honcut, worked for John Pollock during harvest. Mr. Pollock paid them in wheat, and when the last load was delivered there was some dispute between the boys and Mr. Pollock. The latter believed that he was being wronged in the matter and swore to a warrant charging the boys with embezzlement. The case was brought before Justice Upham, but was transferred to Justice Leonard in Oroville. A jury after listening to the evidence acquitted the defendants.

Weather and Crops.

The following synopsis of the weather for the week ending Monday, August 10th, is issued by the State Agricultural Society, in co-operation with the United States Climate and Crop Service, James A. Barwick section director:

The average temperatures for the week ending Monday, August 10th, were as follows for the Weather Bureau stations named: Eureka, 60°; Fresno, 78°; Los Angeles, 68°; Red Bluff, 78°; Sacramento, 72°; San Francisco, 58°; and San Diego, 68°.

As compared with the normal temperatures, there were heat deficiencies as follows: Fresno, Los Angeles and Red Bluff, 5°; Sacramento, San Francisco and San Diego, 2°, while Eureka has an excess of heat over normal of 4°.

There was no rainfall, which is the normal condition for the entire State at this season of the year.

Fruit is fast ripening and is being shipped, canned and dried. The shipments during the week were larger than at any other time during this season.

The grain harvest is about over. Generally speaking, most excellent crops are reported—that is, the yield averages well as compared with other years. The cool and pleasant weather has been good for workers in the vineyards and orchards, as well as the harvest fields.

There are still unusually heavy dews reported from the wheat and fruit districts of the State, which are detrimental to grain threshing early in the mornings and injurious to fruit drying.

Hop picking will begin in a few days; but as prices are very low, the full crop will not be gathered.

The highest temperature reported was 101° at Lime Kiln, Tulare county, and the lowest 42° at Yreka, Siskiyou county.

Condition of Crops.

WASHINGTON, Aug. 10.—The report of the Statistician of the Department of Agriculture for August includes an improved condition of corn over last month of 4.2 per cent. The average of the principal States are: Ohio 105, Kentucky 102, Indiana 105, Illinois 106, Iowa 103, Missouri 85, Kansas 109, Nebraska 108.

The condition of spring wheat has fallen since the July report from 93.3 to 78.9—a decline of 14.4 points. The condition by States is as follows: Michigan 83, Illinois 83, Wisconsin 82, Minnesota 80, Iowa 84, Kansas 55, Nebraska 77, South Dakota 89, North Dakota 70, Washington 90, Oregon 90, California 109.

The condition of oats has fallen since last report 19 points, or from 96.3 to 77.3.

The spring rye condition is 88, against 96.6 in July.

The average of buckwheat is given at 99.5 per cent of last year's area; condition of same, 96.

The condition of Irish potatoes was 98.5, against 99 in July; tobacco 86.5, against 91.5 in July.

Reports on the European grain crop are generally favorable. The wheat crop promises to be up to the average. Forage crops will be short, if drought continues.

Poland Chinas at the East.

The sale of Poland China swine at the Fair grounds, Springfield, Ill., August 5th, indicates that, notwithstanding the hard times and that this is a political campaign year—usually dull for business—there are men who have great faith in the money-making power of the American hog.

The animals sold, owned by three central Illinois breeders, were nearly all good individually and in pedigree; some of them in these regards were considered of special excellence.

The day was here the hottest of the season; but the building in which the sale was held permitting access of air from all sides, bidders were not unduly heated except it was at times in making bids. Bidding was generally lively, and little time was taken in endeavors to secure another dollar when buyers were slow in answering the call of the salesman. The animals sold were all old enough to show their quality and usefulness.

The highest price was for a two-year-old sow that went to Indiana on the record-beating bid of $1310—the most that was ever paid for a hog at public auction. The next highest price was for a two-year-old sow that remains in central Illinois, and the third highest was $600 for a two-year-old sow that went to Indiana. The buyers were from Illinois, Indiana, Iowa, Mississippi, Missouri and Nebraska. The average of the sale was $112.

Newspaper Plugs for Squirrel Holes.

TO THE EDITOR:—I noticed in the two last issues of the RURAL articles on squirrels, etc., and the use of ferretts, poison, smoke and bisulphide of carbon are recommended for there extermination. But we here in Kings county have found out a much cheaper and better way.

A neighbor lady who was once a resident of Los Angeles county told me this summer that while they lived in Los Angeles county they filled the squirrel holes with pebbles, pounding them in tight with a shovel handle or stick, and the squirrel not being able to remove the pebbles would remain in the hole and die.

As the squirrel digs his hole from the outside in, not from the inside out as the gopher does, it is very difficult for them to dig out, unless the hole is very shallow. But as we here in Kings county have no pebbles to fill their holes with, we must use something else to prevent their exit from their burrows.

Now, if there is anything under the sun a squirrel is afraid of, its paper,—yes, a political newspaper, during a hot political campaign. So just fill his hole with a good wad of paper and unless his burrow at some interior point is near the surface, he is just as good as dead; yes, better, for he is already buried. If the hole is large, I use a clod, or anything convenient to wrap the paper loosely around, so as to crowd rather tight in the hole.

Another thing is, no migratory squirrel will ever take up his residence in that burrow as long as there is a paper in the hole, for just as soon he gets near enough to read, "high tariff," "gold," "free trade," "free coinage of silver," etc., and knowing no more what those things mean than many of his two-legged neighbors who are continually talking about them, he will leave for quarters where no such things disturb his hitherto quiet dreams.

Occasionally an inquisitive dog will come along and run his paw into the hole and pull the paper out, but I entertain extreme doubts, if the hole is closely plugged if a squirrel will ever try to remove the paper to get out. J. F. FLORY.

Lemoore, Kings County.

The Hop Situation.

Eastern journals are calling attention to the old fact that the time to stay in the hop business is the time when others are going out of it. This going out is so marked in the Eastern hop regions that the Utica, New York, *Herald* claims that hops are and have been so low in price for such a length of time that not only will there be a short crop in this country, but the same causes that have diminished the growth in this country are active in England also, and in some measure in Germany. If not before, surely by the time the 1897 crop comes into market there must be a scarcity of hops, and they must necessarily bring an enhanced price. When those conditions are once existing it will require several years for the yards to increase sufficiently to leave a large surplus, because a great many who have gone out of the hop business have substituted other crops and methods, and have left the business, determined never to embark in it again.

The Eastern Supply.—The 1895 crop has nearly all disappeared. Four months ago there were in the hands of growers and dealers in the towns of Sangerfield and Marshall more hops than were ever in the same territory at one time before. Nearly all the hops are gone; most of them doubtless are in the brewers' hands. The farmers have but few; perhaps less than ever at this season before.

It is estimated that one-half the brewers have enough hops on hand to last them a year; one-fourth to last six months, and the balance are those who buy from hand to mouth. Six months ago careful estimates indicated that there were enough hops in sight for the world's supply until June, 1897. To-day that estimate seems to have been too liberal, and it is believed that at the present rate of consumption, if no hops were raised the present season, the supply would be exhausted before next April. This does not go to prove that the first estimate was wild, but that hops are much like other products; when extremely low in price the brewers use more of them than when the prices are high. There is no doubt but that 40 per cent of the acreage of this country has been plowed up, and, besides, at least two-thirds of our growers have neglected their yards, as they have not before in several years. The penalty of neglecting a hop yard and allowing it to partially grow to weeds, even for one year, is that such yards can seldom if ever be brought up to full bearing again, except after being plowed up and seeded down to grass a couple of years before resetting.

HORTICULTURE.

Small Fruits and Irrigation.

Byron O. Clark of Pasadena gives the *Cultivator* some hints for the treatment of small fruits during the dry summer season. He mentions the hot wave of June and says that it clearly showed ill effects on the berry and truck patch where there had been a scarcity of water. We may expect a repetition of these hot waves about the same date each of the next three months, and, with the general shortage of water, there will unavoidably be much loss to the small fruit grower. Keeping the ground well stirred after each irrigation, and, when the means are at command, a mulch of straw of coarse manure, will help materially in retaining the moisture and keeping the ground cool.

New Strawberries.—The Arizona strawberry shows its drouth-resisting qualities and proves the history of its origin, it being a chance seedling that lived through the drouth to which an abandoned strawberry bed was subjected at Phœnix, Arizona. The owner, Mr. R. E. Farrington, recognized that a strawberry plant that could survive drouth in such a manner was worth saving, and he was well rewarded, for not only was it an unprecedented drouth register, but an extra large well-flavored berry, and a continuous berry. While it is not the best of shippers, it will compare favorably with other popular kinds for near-by markets, where its large size always attracts attention and commands good prices. It is a decided acquisition.

The past week I planted a bed of the "Dollar" strawberry, which, I am informed, is superceding all others in the berry districts of Placer county. My correspondent there, who has grown strawberries for market for the past twenty-five years and tested all the promising new kinds, says he has never seen anything to equal it as a shipper and for profit. The plants are very strong and woody in growth, and the fruit is very firm, of good color, size and quality. It colors from the center and is never hollow, as is the case with many large berries. A berry that is hardly colored outside will be found to be quite red inside, and by the time it is of sufficient color to suggest ripeness, it will be of an intense red all through. I have never seen a berry with such high-colored pulp; its habit of ripening inside first adds to its shipping qualities. It is among berries what the Rare Ripes are among peaches. I believe it a most promising berry, but will be able to speak more authoritatively another season. We certainly need a good shipping berry, one of better color and finer quality than any heretofore grown here. Maybe this will be the one we are all looking for.

A Water Saver.—Speaking of dry weather and scarcity of water, a description of a water-distributing device I contrived several seasons ago may be useful to some of the irrigators of small fruit and garden patches, where they have water under pressure.

Have four, five or more pieces of ¾ or 1-inch pipe cut 3 feet long and threaded at each end, and put together with "T's" with ½-inch side openings; screw into each T a ½-inch faucet, close one end of the pipe with a plug and fit the other end with hose coupling attachment; connect this end with your hose from your hydrant and you are ready to regulate as many small streams as you have faucets in your irrigator in such a manner that all the rows get their share and without any waste of water, as when run into an open ditch and divided therefrom. The ground to be irrigated should have previously been furrowed out with a shovel-tooth on the cultivator, and a waste furrow made at the lower end to catch the waste water and conduct it on to adjoining fruit trees or other crop. If the water is allowed to run three to five hours in a small stream through your furrows and properly regulated with your faucets, there will be good results and no waste of water or loss of time watching it after it is once regulated. The small cost will be repaid many times during the season.

Mendocino County Apples.

To the Editor:—In a recent issue of the Press I noticed an article entitled "California Apples," which stated that in portions of California as good apples could be raised as could be found in this country. It also went on to state that apple raising is as yet a rather neglected industry.

Apples Profitable.—According to my observation, apple growing pays better than almost any other kind of fruit—that is, in any place where they will do well. The article also stated that apples will do well in most of the hilly or mountainous parts of the State, especially the northern part, but that transportation facilities is the chief drawback.

Advantages of the Mendocino Coast.—I find that by my own observation and from all the information I can obtain, this coast, and especially this part of it, is fully equal to the best apple country on the Pacific coast. I will describe this as the southern coast part of Mendocino county. It is hilly, mostly good soil, partly timbered and brushy country. There are quite a number of orchards in a fine, thrifty condition; but, owing to the late severe frosts last spring, the fruit crop here, as elsewhere, is rather light. The land here is not very costly and shipping facilities are good, as we have steamers to and from San Francisco twice a week, and freight is low—from $2 to $3 per ton. W. M. Brandt.

Fish Rock, Mendocino Co.

A Careful Estimate of the Logan Berry.

We recently gave the favorable judgment of a good Eastern fruit authority upon the Logan berry, our new California fruit, whose origin with Judge Lugan of Santa Cruz has been frequently mentioned in the Rural. We find now in the *Country Gentleman* the observations of Joseph Meehan of Philadelphia, a well known and careful horticultural writer, which constitute a very strong tribute to the new fruit.

Character of the Variety.—The new fruit called Logan berry, which has for its parents both the blackberry and the raspberry, and which was raised in California, has fruited here for the two seasons past. Last summer the plants, having been recently set, the fruit was small, but this season, being stronger, the canes have produced a lot of fruit.

Whether or not it will become of value as a market fruit remains to be seen. That it is a great novelty is certain. The plant shows unmistakable traces of its parentage in its appearance. The canes are thickly set with slender prickles or spines, which are quite stiff enough to remind one to handle them gently. The foliage reminds one more of a blackberry than the cane does. The canes are not upright growing, but are almost of prostrate growth, and attain a great length in a season. Some of the new ones of this season are already (July 20) over 6 feet in length, and they will certainly reach many more feet before growth stops.

The Fruit at the East.—The fruit is in loose clusters of a dark red, almost black, color when ripe, and in flavor reminds me more of the raspberry than of the blackberry. Its quality is good. An objection is the little spines which continue from the canes to the fruit stalks and compel careful handling by those whose fingers are not well seasoned. But some of the commonly cultivated blackberries are of the same nature.

As to its season of ripening its fruit, the bushes here seem to perfect their fruit with the raspberry, perhaps a little earlier. There are lots of raspberries on the canes yet, but the Logan berries are about over.

Fears were expressed that this new fruit would not prove hardy here, but so far the plants referred to have not been hurt by cold or anything else. No doubt its prostrate habit of growth is a help to it in this respect.

It will probably be found that staking it and tying the canes up will be the proper way to proceed in its cultivation, though perhaps the canes may be allowed to cover the ground while growing, as some growers do with the dewberry.

The propagation of the Logan berry, it is stated, can be affected by fastening the tip of the cane to the ground, as in the case of black-cap raspberries, and no doubt it can be done in other ways as well.

Pruning Apricots.

To the Editor:—I will be very much obliged to you if you will be so kind as to advise me if it is necessary to prune my apricot trees in the top or not. The trees are eight years old and very high. They make a vigorous growth every year. The ground is heavy; there is no irrigation here. They are pruned every year; but pruning on the top is very heavy work now; so I should like to prune the bottom and sides alone, but I don't know whether it is bad not to prune the tops. Please give me your advice.

Toluca, Cal. A. P. Visser.

These tall branches must be headed back. If not, they will either bear fruit which will cost more than it is worth to gather, or, more likely, these tall branches, when set to fruit, will break out in the arms and destroy the trees. It is a question whether any fruit is worth growing which cannot be gathered with a 12-foot stepladder. Consequently, both for this reason and to save the trees from falling to pieces, these tall branches must be shortened, so as to bring the new growth within reach.

Mayes Hybrid Dewberry.

To the Editor:—In our experience with dewberries, we have come across one variety that has many points of excellence over all other varieties. This sort is known as Mayes hybrid dewberry. It originated near Pilot Point, Texas, on a Mr. Mayes' farm. It has been cultivated in Texas for several years with most satisfactory results. This dewberry can, by proper pruning, be trained into little bushes, and thus requires no trellises. Single plants of this dewberry, the first season after setting out, have been known to yield 250 good berries; and as the age of the bush advances, the crop is increased. No other dewberry or blackberry that we know of can rival it in the abundance of choice fruit produced. It always blooms out late, and is therefore a safe crop in very frosty localities. We have under cultivation the Lucretia dewberry, the Bartels Mammoth, Manatee, Mammoth White, Sierra Red, Sierra Yellow and Sonoma, but give our preference to the Mayes hybrid. The Lucretia is very good and pays well to cultivate, and it is quite extensively cultivated in this State.

The fruit of the Mayes hybrid is larger than that of any other dewberry or blackberry; the color is a shining, jet black, and the flavor is very rich, sweet and spicy. It is a good shipper and sells readily in market by its superb appearance. The Mayes hybrid berry is easily propagated by root cuttings or by the tip. S. L. Watkins.

Grizzly Flats, Cal.

THE VINEYARD.

Pruning Back Frost-Bitten Vines.

It has been a general rule in horticultural practice from time immemorial that tender growth touched by frost should be cut back to a point below which the injury can be seen to have extended. This applies to any plant whatever which has its tender growth injured, for it was observed long ago that if the injured part is not removed and the plant allowed to make a healthy healing at a cut in healthy wood, the decay will afterwards extend below such a point and endanger the life of wood which was hard enough to resist the original frost attack. Consequently, when the frost injuries came so widely to vines last spring, the Rural promptly advised pruning back, even to the pulling out of the shoots, so as to start growth anew from dormant buds on the stubs. The *Chronicle* desired fuller demonstration of the soundness of this advice and has secured an interesting response from the Italian-Swiss Agricultural Colony as to the effect of immediate stripping of frosted shoots from the vines. Its experience was most favorable, and is the more valuable as it was the same in such far-removed districts as Madera and Sonoma counties.

The questions propounded were the following: 1. Did you remove the frost-bitten shoots? 2. If you did not, how did they behave? 3. In either case what was the result as regards the setting of fruit? 4. Are the berries dropping, and if so do you think it is from the effects of the frosts, and what makes you think so or otherwise?

The answer as made by P. C. Rossi, president of the Italian-Swiss Agricultural Colony, is as follows: The vineyards at Madera were badly frost bitten twice, so that the shoots that were not killed at the first frost were certainly killed at the second, which happened three weeks later than the first. Immediately after the first frost we had all the vines stripped entirely of all frosted shoots, and we repeated the same operation after the second frost, by so doing cleaning entirely the vines, so that the vineyard appeared without vegetation; and to our great satisfaction we are pleased to state that all the dormant buds came out with a good crop of grapes, bearing, therefore, two-thirds of the crop. The vineyards at Madera did not appear to be affected with coulure, and at the present date everything appears satisfactory.

The experience which we had at Asti, Sonoma county, fully corroborates the one that we had at Madera. Our vineyards in Sonoma county were only affected by the frost once, that being the last frost that came, the first time in fifteen years, only the vines on the lower land being affected, while those on the hillsides were not touched at all. We had all the vines affected by frost entirely stripped of the damaged shoots, and we had the pleasure of seeing that, in a short time after, all the dormant buds came out finely with their regular two bunches of grapes; therefore, we have lost only one-third of the crop. In order to make careful experiment we left a row of vines untouched, and the result proved that the vines that were not stripped did not do as well as the others, as the dormant buds in many cases did not come out, and those that came out were not healthy and strong, and hardly have any grapes. The damaged shoots that were not removed died gradually, and at the junction with the cane new shoots came out without any grapes at all. The result clearly proves that we will have fully two-thirds of the crop out of the frost-bitten vines which were stripped of the damaged canes, while we will not have hardly any first crop and only a second crop on the vines which were not attended to.

Coulure Not Due to Frost.—By carefully looking into the matter we are convinced that the dropping of the berries, or the so-called coulure, was not due to the effect of the frost, but to other causes, as on all our hill vineyards, which were not affected at all by the frost and which, until the end of June, promised

to bear a very good crop, as the blossoms came out perfect, are now suffering considerably from coulure, just as much if not more than the vines which were on the lower ground and which were affected by frost.

THE FIELD.

Latest Statements About Canaigre.

The Agricultural Experiment Station of the University of Arizona, located at Tucson, is now distributing another bulletin under the above title, in which are set forth further facts respecting this new and important industry. It is a pamphlet of thirty-five pages and contains half a dozen reproductions of photographs of canaigre plants and roots, showing faithfully the habit of growth and character of the roots. Prof. Robert H. Forbes, the chemist of the station, is the author of the bulletin, which deals more particularly with the chemical side of the question, although some space is given to botanical description, habitat and cultural methods. All who are interested in this important plant will want this new bulletin, which will be sent gratis to all applicants applying to the director of the station as above.

The Future of Canaigre.—As to whether canaigre is to become an important crop of the arid Southwest, Prof. Forbes of the Arizona Agricultural Experiment Station seems to have little doubt. He says: Certain peculiarities of canaigre seem favorable to its agricultural future:

1. It grows in winter, when water is more abundant throughout the arid region. This fact may render possible the reclamation of large tracts of land for which there is not sufficient irrigation in summer.
2. The climate is mild in this season of the year and labor is, therefore, more comfortable and effective.
3. In case of extreme drouth the crop is not lost, but the plant simply stops growth and waits for better conditions.
4. Harvesting may occur at any time, the mature crop remaining in the ground indefinitely without injury, and even with a certain amount of improvement.

As to the value of the product, it appears that under existing conditions the objective point is a crop which can be sold at from $5 to $7 a ton.

Where Will Canaigre Grow.—The following extract will give the information asked by many as to whether canaigre may be grown in their respective localities: "The best conditions for the growth of canaigre are a cool, but not freezing, climate, a moderate amount of moisture, sandy, fertile soil, and probably, also, a sunny and arid atmosphere. These conditions are nowhere combined more perfectly or for a longer period of the year than during the six or seven cooler months in the arid Southwest. * * A mean temperature of about 70° or less is required for the growth of canaigre. Above this, even though there be abundant rain, as was the case in August, the roots will not do more than sprout feebly, and various attempts to make them grow in warm weather have failed. This seems to limit canaigre to the Southwest, for nowhere else, excepting possibly in some Southern States, is there so long a period of mild weather. It has been grown experimentally in Florida with some success, but in the Northern States the interval between the severe cold of winter and the extreme heat of summer is too short to allow of much root development. The sprouting of the roots in August, under the influence of rain, suggests that in the culture of canaigre one or two summer irrigations would prepare the plant to grow more promptly on the advent of cool weather.

"The growing plant will stand a good deal of cold. When frosted, the leaves lie prostrate upon the ground, but immediately regain position when thawed out by the sun. The root, also, will endure freezing. It has been left in the ground all winter, 60 miles north of New York city, subjected to a temperature as low as 15° below zero, without injury. At Lincoln, Nebraska, the roots stood a very severe winter without any damage whatever. At Peoria, Illinois, plantings made in 1892 were still alive in 1895, and similar results are noted in Washington, D. C., and Garden City, Kansas. The new root development, however, is stated in a number of cases to be insignificant under such conditions.

"As to locality, canaigre is found more commonly in sandy washes, where water is more abundant. With irrigation, it will make a good growth in any fertile, tillable ground, but the influence of soil conditions on actual production has been little studied. It seems to stand considerable alkali, and is even reported in the salt grass meadows of Tia Juana valley, near San Diego, California."

The Tanning Content.—The tanning materials in canaigre remain pretty constant throughout the growing season with, however, a small but distinct increase after the plants become established in vigorous growth. The amount of this increase in mature roots from year to year was further shown by taking four samples of wild roots comprising every age up to about five years, dividing the samples as near as possible into successive year's growth, and analyzing. It was found that the average increase of tanning materials from year to year in ten instances was 1.64 per cent (in water free material). In one set of cultivated samples the averages of the first and second year's roots delivered 2.64 per cent. This indicates a small but constant increase in the per cent of tanning materials from year to year, but holds true only so long as the roots retain their vitality. When they die the tanning substances quickly disappear. Although the percentage does not increase remarkably from year to year, the roots themselves become larger so that the actual amount of tanning materials is much greater.

What The Tanners Say.—As regards the value of canaigre tanning materials, the earlier favorable opinions of tanning chemists have been excellently supported by the experience of the trade. From various sources it is learned that canaigre chips and extracts have been successfully employed, either alone or in connection with other tanning materials for the production of a remarkable variety of leathers, including both heavier and lighter grades. According to the statements of different tanners it is employed in the production of:

1. Patent and enamelled leathers for the carriage, saddlery, and upholstery trades.
2. Patent and enamelled leathers for fine shoes.
3. Carriage covers and dash board leather.
4. A high grade of carriage and furniture leather and a fair grade of patent shoe tipping.
5. Upper, grain, or similar light leather.
6. East India kips finished as waxed leather.
7. Yellow for mittens, horse hides, butts, kangaroo, glazed kid, and other fine shoe leathers.
8. The heaviest sole and harness leather, and the lightest calf and sheep, with best results for all kinds.

Conclusions.—All the work thus far done at the Arizona Agricultural Experiment Station, located at Tucson, has led Professor Forbes, the chemist of the station, to deduct the following conclusions respecting this important industry:

1. Canaigre is best adapted to a mild, dry, sunny winter climate of the Southwest. Although it will endure frost and will grow in rainy regions, it does not promise good results in these uncongenial situations.
2. Canaigre roots and leaves are damaged to some extent by insects, but the plant is not known to be seriously threatened by them.
3. Canaigre tanning materials are found throughout the plant, being in greatest quantity in the central portions of the roots.
4. The tanning materials form rapidly during the first year of growth, showing a small percentage increase after the first year, and as long as the root retains its vitality.
5. During the dormant summer period of the plant, the tanning materials seem slightly to increase in young roots. Sprouting does not affect the quantity of tanning materials. The evidence thus far does not show that irrigation lessens the percentage of tanning materials.
6. Heat, air and fermentation, acting on either roots or extracts, all destroy canaigre tanning materials.
7. The red and yellow coloring matters of canaigre affect the quality of leather produced. The red matters are less desirable and are formed chiefly in the wild crop. They are not present in quantity in cultivated roots. This fact is considered an improvement in the quality of the root for tanning purposes.
8. The sugar contained in canaigre gives roots and extracts their "plumping" qualities. If properly managed it is a valuable factor in the production of heavy leathers.
9. Canaigre bagasse, properly prepared, should be about equal to mesquite wood in fuel value. When well rotted it ought also to have considerable value as a fertilizer. It promises little as a stock food.
10. Canaigre draws heavily upon the soil, especially for nitrogen. Its total drain is about twice as costly as that of sugar beets.
11. The utility of canaigre is demonstrated. Properly handled it produces an unusual variety of leathers of excellent quality.
12. The agriculture of canaigre is yet in its experimental stage. A fair estimate shows that it will be necessary to produce an annual crop of about seven tons or a biennial crop of about thirteen tons an acre in order to equal the profits of sugar-beet culture. On present evidence this yield seems highly probable, but, so far as known, has not yet been demonstrated.

Will Schluter's Corn Field.

Livermore has a farmer who may believe that "most corn grows in crooked rows," but he does not propose to grow his that way. The *Herald* says that there is no more delightful picture to-day in all Livermore valley than Will Schluter's thirty-acre corn field on East avenue, two and a half miles from town. Everybody who sees it comments upon it, as it gleams and waves in its dark-green verdure, surrounded by brown and bare stubble fields, like an oasis in a desert. It is almost something unheard of in Livermore valley, this glimpse of a field green and luxuriant in August, and the intelligent farmer who catches on to new ideas is studying the lesson that Mr. Schluter is teaching his neighbors with a relish.

Both Egyptian and Indian.—It is Egyptian corn, mainly, which Mr. Schluter is growing. He has a few acres in Indian corn, and he wishes now that he had planted more of the latter. Next year he will sow at least half his corn field to Indian corn, because it grows fast and rank and makes superior dairy feed. He is raising the Egyptian corn chiefly for chicken feed, but the stalk and leaves also make great feed for butter fat.

Straight Rows.—The beauty of Mr. Schluter's corn patch is not alone in the splendid and luxuriant vegetable growth he has obtained by scientific cultivation, but in the military discipline with which the regular rows maintain their place, no matter from which direction you inspect them. The slip-shod, broadcast sowing of corn in n. g., and Mr. Schluter has proved it. He first gave his land a thorough subsoil plowing. Then he harrowed. Then he dragged a big sled over it, to which he attached "markers" about three feet apart. When he had marked his field east and west, he ran across it north and south, and at the intersections, with a hoe, he planted his seed—about three kernels in a hill.

So accurately did he lay the field off in this way that, before the seed sprouted, he cultivated once with a single cultivator, running between the rows without disturbing the seed. He has cultivated the whole field four times with his one-horse cultivator, across it from both directions, and the ground is now loose and moist, and as free from weeds as the roof of his barn. The Egyptian corn stands shoulder high, and is maturing an enormous crop. There is no pest bothering it. The Indian corn shows taller growth, but the ladybugs are eating the silk and spoiling the swelling ears. But as Mr. Schluter is feeding stalk and all green for fodder, the bug is not hurting him as much as it thinks it is.

FORESTRY.

Treatment of Forest Fires.

The smoke cloud from burning forests is reported from the upper coast. It is the usual summer experience and the smoke comes in many instances from far beyond our northern boundary. But we have sweeping fires within our own borders every summer and great loss of timber and of improvements in timbered regions results. Laws have been enacted to reduce the evil by making careless use of fire criminal, etc. But these are a mockery when the conflagration has begun. What can be done to check the progress of such fires is a timely and important matter and in case the best methods known to the modern art of forestry in countries where forestry is systematically pursued, may be of assistance to our readers, we compilean account of them from the writings of Dr. Nicholas Jarchowin in the *Forester*.

Treatment of Ground Fires.—The methods applied for extinguishing forest fires depend upon the nature of the fire and the localities. Ground fires, discovered at their beginning, and when still of small extent, can be easily put out by a few men using the back of shovels or green boughs to knock out the smouldering combustibles on the soil. But when once a ground fire has taken hold of a larger area, the difficulty of preventing its extension grows enormously. For this reason the speedy and most energetic action should be taken, because the danger of its assuming extensive proportions increases with every moment lost.

As soon as the news is brought that a fire has broken out, the owner or manager of the forest should at once get together a good many men with shovels, spades, hoes, axes, etc., and hurry to the place of fire. Arrived there, he could make such disposal of his hands as he thinks best adaped to the prevention of the further spreading of the fire. Ground fires of small expanse may be put out, as above mentioned, by beating the fringe of the flames with green boughs or with the back of the shovel, or by throwing sand or earth over the flames, or by sweeping sand or earth over the flames, or by sweeping the burning material with stiff brooms inwards, so as to throw it back to parts over which the fire has already passed. This plan should be first tried, as its adoption often suffices to quench the fire. When there is no wind, or only a slight breeze is blowing, ground fires of larger extent may be extinguished by these measures when applied from different sides simultaneously.

But when there is a steady wind blowing, and the smoke and heat in front of the fire become so strong that the men are unable to endure this inconvenience, the extinctive measures are confined at first to the sides and flanks, and when in this way the extent of the fire is decreased, gradual efforts must be made to head off and stop it. Should the breeze be very

strong and the fire have gained foothold over any considerable area, it is advisable to commence operations some distance ahead of the line of flames and clear a strip of several yards in width from all inflammable material, simultaneously extinguishing the fire along the edges.

Back Firing.—When a ground fire is strong and the danger is imminent that it will overleap the check made by the cleared strip, it is advisable to set fire along the inner edge of the cleared line so as to burn against the wind and meet the fire, which will, when it has reached the counter or back fire, subside for lack of fuel. Whenever fire lanes or other protective lines are provided for in a forest, these should be selected as bases of operations, so as to obviate the danger of sparks being blown into the woods lying behind. The starting of a back fire must be conducted with great care, and the line should be sufficiently manned with competent men to see that the counter fire does not burn in the opposite direction, aggravating the damage it was intended to put an end to. When once, however, this counter fire has been well started, it will soon effect its object, making headway against the main line of fire, where the ignition at last subsides from lack of food.

Crown Fires.—Ground fires that break out in woods of young growth finally develop into top or crown fires, if they are not in time checked. For as soon as such fire eats its way into the thickets where the trees have still kept lower branches, it runs up into the crowns, and then the danger of the situation is much increased. Extinctive measures are then far more difficult and troublesome, especially during high winds, when the smoke flames and heat are driven on ahead against the force of men. In such cases extinctive measures are no longer practically adoptable, and the conflagration is only stopped by a natural occurrence, as a drenching rain, or a clearance, a wide road or by reaching the limits of the woods.

Guarding Against Fires in Forest Planting.—Crown fires in pineries are best prevented from spreading by proad fire-protection lanes, planted up with such deciduous trees as bear good crowns of foliage. Owing to the interruption of coniferous canopy, these paths form the only sure basis upon which extinctive measures can be soundly adopted. However, the interruption of the canopy by narrow lanes can be materially assisted by at once enlarging the lane and clearing away a row of trees along the side towards the fire, and working thus to reach the main fire line. But in this work, as well as in speedily removing all inflammable matter from the soil in case of ground fires, care must be taken to begin operations so far ahead of the fire as to insure their completion before the fire has had time to come up to the line. The felled trees should be lopped of their branches, and these should be removed so far into the opposite side of the woods as to render it improbable that they will be ignited by flying sparks, while the naked trees should be thrown in the direction toward the fire.

Counter Firing.—Although the interruption of the leaf canopy in crown fires by means of as broad a belt as possible is the usual resource of suppressing the fire, there are cases where a conflagration can be successfully stopped by (a counter fire) firing the woods along the edge of the paths or protection line, facing the approaching main fire. This operation can, of course, only be resorted to when there is no wind at all or only a light breeze, for if the wind blows strongly counter fire would rather increase the conflagration. But wherever this way of fighting the flames is advisable and practicable, it terminates the spreading for the ascending air, rarefied by the intense heat over the burning district creates there a vacuum which before long in filled by air currents rushing in from all sides and drawing the flames upon the center of the (main) fire where the conflagration at last subsides from lack of combustibles.

This operation entails necessarily the deliberate sacrifice of a portion of the area; besides great prudence being required to prevent the back fire from spreading into the tree growth behind the line, but as a rule, it is an efficient means to save the adjoining woodlands. When the trees behind the line are of older growth, and, therefore, their canopy cannot be reached by the flames on account of its being higher and more remote from the ground than the burning trees, great attention, nevertheless, will also be needed for the growth on the soil, so as to prevent the beginning of a ground fire by the flying sparks.

Extinguishing Ground Fires.—Ground or soil fires which have broken out in great bogs (turf moors), lying in or adjoining a forest, should be extinguished before they reach wooded tracks. The progress of such a fire, which often burns deep under the surface soil, can only be stopped by digging ditches deep enought to reach the ground water level or the mineral soil, and thus isolating that portion of land which is on fire.

Fires which have originated in the trunk or hole of old hollow trees are extinguished by shutting off the access of air into the interior of the tree.

Trained Men for Fire Fighting.—Forest fires when once started assume in this country such large dimensions that they go beyond human control. The neighborhood of large forests is mostly but sparsely settled. In case of emergency there is neither speedy help at hand, nor are the men who might be willing to help trained in this kind of work. Besides, in extinguishing forest fires much depends upon the direction of the helping hands. This requires not only a man of knowledge and experience, but also one who is possessed of great presence of mind, and will not be baffled by any uncommon and unforeseen incident.

In the European countries, where woodlands are just as systematically exploited as land devoted to agriculture, there is always a force of men working in the woods, so that forest fires will not only be soon discovered but also extinguished, because the laborers, living within or near the woods, are trained for such exigencies and led by learned foresters, who have become familiar with the means to extinguish forest fires. In our country the owners of large forests mostly speculate on the rise of prices in lands in the future. They simply care to derive the revenue from their property, which can be obtained without employing any working force or capital, from stumpage, paid by the lumbermen for felled trees, and which is sufficient to pay taxes, and a small percentage of interest on the invested capital.

Clearing Lanes Along Township and County Lines.—In case of a forest fire, therefore, we cannot expect any considerable help from the owner, and as to neighbors, there is seldom any sympathy with the forest owners other than that which is aroused by the regard to the safety of their own property. Thus the burden of extinguishing forest fires falls upon the local authorities. This state of things should not be allowed to exist. For reason of the public welfare the proprietors of large forests should be forced to cut fire lanes through their woods, so as to allow the unimpeded access to the interior of the forest when a fire breaks out. Under all circumstances owners of adjoining forests, large or small, should be obliged to keep the division line between their properties to a certain distance free of forest growth.

If each owner would clear a strip of about half a rod of forest growth along the division line, there would be a path of about 16 feet wide between the two forests, sufficient to make a stand for subduing an advancing forest fire. The townships, or at least the counties in which wooded areas of considerable extent are situated, should organize their fire departments in a manner that they, in case of a forest fire, could furnish the managing chief with a skeleton of trained firemen, that might be filled up by volunteers taken from the vicinity of the place of fire.

THE IRRIGATOR.

Irrigation in Arizona.

Apropos of the national irrigation convention which will be held this fall in Arizona, a tribute to the irrigation resources of our sister commonwealth is acceptable. We are glad to see it, too, in the columns of the *Country Gentleman*, which has always been rather reserved in its approval of the development of the great producing regions of the West because of the resulting competition with Eastern-grown products. Mr. James Wood, who has had opportunities for observation in many parts of the world, does not hesitate to speak glowingly of our end of the country, but he has a partiality for our arid southern sister land. We shall take a few paragraphs:

California and Arizona.—The results of irrigation in southern California are well known. The production of citrus fruits and many other valuable products is almost entirely dependent upon it. The achievements of less than a quarter of a century excite our wonder and admiration. But great as these are, they are not so striking and impressive as are the results obtained within a very few years in the territory of Arizona, where the desert has truly been made to blossom with roses, and the strange and viscous cacti have given place to the choicest fruits and most precious crops produced from the soil in any quarter of the earth.

Ancient Irrigation.—The desert of Arizona is vast and in itself most forbidding. Extending north and south nearly through its central portion is a great whale-back rise of land that reaches 7000 or 8000 feet in height, and through which the Colorado river has cut the immense canyon that surpasses in extent and depth and wonder all others of the world. This high land catches the currents of air from the Pacific, and, extracting their moisture, has as a result growths of grass and forests of pine. But here are the only native trees in the territory worthy of the name. All else are but brush or straggling specimens by the feeble water-courses.

Through the southern portion of the territory, south of the highlands described, in its hottest and most arid district, flow the Salt and Gila rivers, fed from the melting snows of high mountains, and which unite and empty into the Colorado. Here the Pima and Maracopa Indians have lived and have grown limited crops of wheat and barley by a rude and very limited system of irrigation. Long before them a prehistoric race, of whom we know nothing whatever except in the traces of their work that still remain, and whom for the want of a truer name we call Aztecs, irrigated these valleys on an extensive scale. Their great canals bear witness to their skill in hydraulic engineering, and the ruins of their towns and villages tell of their great numbers. Lieut. Cushing estimates that a population of at least 250,000 souls once resided here. They were probably the same people as the cliff and cave dwellers, whose deserted houses so excite our wonder to-day.

Salt River Valley.—The development of irrigation in the Salt River valley in a few years is illustrated by the growth of the town of Phœnix to the proportions of a city. Water has done it. A number of small canals were consolidated by the Arizona Improvement Company, which now supplies the water through a complete system that irrigates something like 150,000 acres of land. The surface of the ground is perfectly adapted to convenient irrigation. It has just the uniform slope that permits the water to flow to every portion with the velocity that gives rapid distribution without washing. If water is discharged at the northeast corner of any tract, however large or small, it can be easily conducted everywhere upon it. This is a most important matter for economical management.

Another Egypt.—The conditions of the Salt River valley are almost identical with those of the valley of the Nile. The climate is almost exactly that of Egypt, and every foot of ground is desert, except where water performs its magic work. Here is no annual inundation, as along the Nile, but almost the same result is obtained by copious winter irrigation, which so completely fills the soil with water that evaporation and seepage do not exhaust it throughout the season. But as along the Nile, the greatest results are obtained by supplementing this with additional water throughout the year; so a like treatment produces the same result here, but here it is done much more easily and cheaply than in Egypt, where expensive pumping plants are required. Nowhere in Egypt have I seen such astonishing results from irrigation as in the Salt River valley, and nowhere else in the world have I seen such abundant crops grown.

An Improved Current Motor.

The old style of current wheels are quite freely used in California to raise water from stream or ditch, so that it can be run to points quite distant, or water is lifted from the low bed of a stream, so that it can be run on adjacent land at a higher level. Some of these wheels are as much as eighteen feet in diameter and are ponderous affairs. An improved current wheel, which can be used either for pumping or as a motor for other uses, is shown in the accompanying engraving. The term "current motor" is applied to a mechanism that utilizes the power of the stream or current of a river in such a way that it can be applied to run machinery.

A current motor, it is claimed, can be used without a dam in any location in a river where the water is deep enough to admit it. There is almost no limit, the manufacturers claim, to the use to which the power generated by a current motor can be applied. For example, it may be used for generating electricity for electric lighting purposes, but its chief use will be in connection with irrigation and mining.

The motor herewith illustrated has been experimented with and tested and its practicability is fully believed in by its makers, the F. C. Austin Manufacturing Co. of Chicago, who claim that the only limit to its power and amount of water that can be pumped is the dimensions of the paddles, the number of them and the force of the current. The machine, which is represented as anchored in the river, consists of a pontoon carrying two endless chains, to which are pivotally attached at suitable distances reversible paddles, having floats at their upper ends that buoy them up in their course through the water. These paddles enter and leave the water in such a way as not to detract from the efficiency of the machinery, but calculated to rather add to it. To the wheels put in motion by these cables is attached an elevator carrying large buckets, which, when entering the water to fill themselves, it is claimed, add to the generation of power and are so arranged that when they reach the top of the elevator they discharge their contents with little friction into a trough, there to be conveyed to the shore, where a reservoir has been constructed to collect the water and distribute it through canals and lateral ditches.

TRACK AND FARM.

Future of the Horse Business.

We have had many comments upon the likelihood of doing well with a crop of good horses by the time such a crop could be matured. It is just as well to look on all sides of the question, and E. R.

Wood, of Michigan, certainly is on the bear side of the proposition with both feet. We think he takes too pessimistic a view of the horse future, but our readers can have it for what there may be in it.

The Horse Revival Does Not Come.—It has been the generally accepted prediction for the past two years that there would be a revival in the horse market sooner or later; but up to this date there is not the slightest indication of anything of the kind occurring. While it is true perhaps that it is not yet time for a turn in the tide in prices, still in view of the fact that very few colts have been raised—probably not one where there was formerly twenty—and the frightful slaughter of animals in the West, as well as in other parts of the country, it would seem that by this time there should be some evidence of betterment. Every one was looking for something in that line as soon as spring opened, as the high price of provender and the slaughter of so many inferior animals, which would not pay for keeping, it was supposed would act as an aid in bringing better prices for those which were kept.

This, however, has not been the case, here at least, as horses never before sold as cheaply as they do now. There were an unusual number of farm auctions in the spring, and in every case horses sold for from $10 to $20 apiece. A good team of farm horses not over ten years old can be bought at $40, as was done quite recently at such an auction. Think of it—a team for the price of one cow!

What Horses Sell High.—There has been a large number of horses brought into this section from the West the past two years and sold at public sales. These animals are warranted to give satisfaction, all in fine order and broken to harness. They bring from $30 to $100 each, rarely over that, although some exceptionally fine ones have gone as high as $150, but these were for carriage use and brought this price because of beauty, action and speed—such horses as would have brought $250 or $300 a few years ago. A neighbor bought a fine-looking horse, six years old, weight 1200 pounds, warranted in every way, for $46.

What encourgement is there in these prices for farmers to raise colts? None whatever. The cost of raising and breaking would be more than the animals would cost outright when old enough to work.

The advent of the electric car and the bicycle have perhaps been a factor in bringing about the depression, but the vast number of horses raised during the years in which stock-raising was booming in the West has been the greatest cause of it, and until the present supply is considerably lessened we may look for no particular betterment. Fancy drivers, coach teams and matched heavy drafts may bring big figures in the large cities, but to the average farmer there is no money in the business, because his chances of raising the extra fine animals which bring those prices are very slim. To one such, he is likely to raise a dozen inferior ones. Then, too, the care and training of fine horses is something outside the line of the farmer's business—is a trade in itself. The man who realizes the profit is not the one who raises these horses, but the one who buys and fits them up, then takes them to a city market and disposes of them. As in other things, it is the middleman who makes the profit.

The Electric Obstacle.—Now, as to raising colts with a view to better prices in future years, each man must be his own judge. Perhaps the prices will raise before the colts raised now will be ready to sell, but with the present outlook with electricity and other modes of locomotion which are now coming into prominence, the use of horses in our cities will certainly not increase. On the contrary, it will surely diminish, for the possibilities in the way of horseless conveyances are as yet scarcely tried. We may confidently look for great changes in the next few years in this direction, and who knows but we farmers ourselves may be riding along the roads in a horseless vehicle. Surely stranger things have happened within the last decade.

Must Strike Out Anew.—I am aware that with the waning of the horse-breeding industry a blow is given to farming generally; but that is only one of many which it has had to bear in recent years. Farming is now reduced to a point where it is fast becoming a science. It takes more thought than ever before to make it a success. The man who reads and studies and takes advantage of all the helps he can get will far out-do the one that keeps in the rut of old-time practices and methods of farming.

How the Equine Population of California Has Decreased.

Referring to the oft-mentioned decrease in horse breeding, we cite the observations of a writer in the *Breeder and Sportsman*, who brings the indications into very forcible focus. There seems to be, he says, such a feeling of insecurity among owners and breeders of horses regarding the prospects that a few facts regarding the situation may not be out of order, and may be the means of restoring confidence among the large number who have remained in the business.

Three Years Ago.—In 1893 there was not a field in California that was not stocked to the gates with horses of every description; there was not a barn of any size that did not contain a stallion, while the fences were decorated with stallion cards presenting the claims of either the trotter, draught or all-purpose horse. The streets in the towns were the parade grounds of these lordly "kings of their tribe," and everyone felt that unless they patronized their neighbor's fine stallion an enmity would surely arise. Broodmares, heavy with foal, were driven up to within a month of foaling, and every stable, public and private, had its complement of mares, colts and fillies, the light harness horse, considered the most fashionable, being largely in the majority. The hills and valleys were the homes of many good, bad and indifferent ones. Many of the latter were bred on pedigrees only, and had no other quality to recommend them.

The Present.—In a recent conversation with several stock breeders regarding the great changes wrought incidents were cited where at Hanford over 140 stallions stood for public service that year. There are to-day just four candidates for public favor, and there has not been enough for them to do. The balance of the "entire" brigade have either died or been emasculated. In San Jose, at the stallion exhibition on the track at Agricultural Park that year, 125 grand looking horses appeared, and they represented every breed, from the lordly Clyde to the tiny Shetland. We venture to assert that in that whole valley, and in the mountains surrounding it, there are not now twenty stallions standing for public service. If there are, no one has ever heard of them. At Pleasanton and Livermore, in 1894, there were thirty-five stallions, and they included some of the grandest horses in America. To-day it would be a task to find seven. In Oakland and vicinity there were over tixty. To-day a procession of ten (we mean first-class stallions) would be a curiosity. In Los Angeles a writer informs us that there must have been at least eighty-five stallions there. To-day there are not more than five. So we could go on visiting county after county, and the same facts would present themselves regarding stallions.

The Future.—"What became of the mares?" might then be asked. The reply to this will be answered by every one who inquires of the owners: "There's nothing in breediug, so we have concluded to use the mares and not have their time taken up by raising foals we cannot sell. Many of the oldest mares have been destroyed, and we are working all the young ones we could not sell in the teams." Carloads of horses have been sent from California to Mexico and the Eastern States, while a number have been shipped to Central America. To this may be added the large number that die from natural causes, not only in the large cities, but in the mines and agricultural sections. The demand for good horses is far from discouraging even at this early date. What it will be in two years can only be conjectured, but if we are to estimate on the future by that which has been done in the past all owners of good horses, both light and heavy classes, will get excellent returns for their investments.

THE POULTRY YARD.

To Improve the Common Hen.

Mrs. Ida Tilson, in her talks on poultry in the Minnesota Farmers' Institutes, has done a good work by stimulating the interest in this important branch of agriculture and by giving intelligent direction to efforts of improvement. Telling the farmers' wives how to improve the common hens usually found on the farms, she says:

"The common hens are of all shapes and colors that fowls ever grow, and they are usually neglected, abused, half starved and left to shift for themselves generally; but for all that they generally pay their way, and more too—live and thrive and bring up big families of healthy chickens under the most discouraging circumstances. Take the same pains with them that you would with a stock of thoroughbreds, and they will respond quickly and generously. There is something—a good deal—in blood, but there is also an immense deal in care and feed. If you have not the cash to buy pure-bred cocks to mate with hens to begin with, don't think that you can do nothing towards improving your common fowls. Common fowls can be greatly improved in point of size by always selecting the largest and best to 'keep over' to breed from; and the laying qualities can be improved by always sitting only eggs from the hens that are known to be the best layers. On some farms where this course has been steadily followed year after year, the fowls have greatly increased in size and rival the Leghorns and Hamburgs in egg production.

In one case that came under my observation, in five years from the time the improving process commenced, the average egg product from the hens had increased one-third and the average weight of the fowls had increased in about the same proportion. In all that time no 'fresh blood' was introduced into the flock; the improvement was wholly due to food, care and the selection of the best each year. Of course the same results could have been reached in two years by the use of thoroughbred roosters; but the woman who owned these hens didn't have the thoroughbred roosters, nor yet the money to buy them, so she went ahead and did the best she could with such fowls as she had, and her best was very good indeed. It is a fact that the third winter after she began her work of improvement her hens laid more eggs than any other flock in the neighborhood, and there were some thoroughbred flocks among her neighbors. If size be your object, select your biggest common hens, and mate them with a rooster of some of the larger breeds. If you desire egg production, select the hens that you know to be the best layers; and for any other special purpose, select males from a breed that possesses the qualities that you may desire. Chickens from these crosses will be 'half-blood,' and much superior to common fowls. The next year mate the best of the half-blood pullets to pure bred cocks and keep the best of the pullets from this cross for breeding stock the third year. In this way, always keeping your best hens and pullets each year, and using only thoroughbred cocks, you will, in a few years, have a flock of fowls that for all practical purposes will be just as good as though you had started out with thoroughbreds."

What a Woman Is Doing.

A Miss Asbeck resides near the La Mesa boulevard, about five miles from San Diego. Three years ago she and her father went on this place, and the lady informs the *Poultry Tribune* that, after buying eleven hens and a cock, she had fifteen cents left with which to carry on the business. Not long since she requested us to visit her poultry farm and advise her as to some matings she desired to make. In the spacious and well-appointed yards, we found Black Minorcas, Buff and Brown Leghorns, Barred Rocks, Black Langshans, Bearded Golden Polish, Cornish, Indian Games and a pair of Pearl Guineas. In the improvised ponds east of the chicken department, and low on the grounds, was a large flock of monstrous Pekin ducks in one and a few Muscovites in another, direct from Hawaii. This lady has now 400 and upwards of fowls and over 1000 chicks. When she first began, there was no horse and buggy to convey her and the eggs to market, and for two years she walked, carrying the basket of eggs on her arms, to the end of the electric road, where she took passage the remaining two miles to the city. This spring she bought a horse and buggy; the egg produce became too large for her to handle the old way. On the premises she has erected eight or nine commodious hen houses, fenced with netting, a very large yard for each house, and made the duck ponds, doing most of the work herself (her father being rather elderly and not very strong), and the expense all being met from the poultry products. Miss Asbeck says the chickens pay their own way, furnish the living for the house and clothing for herself and father, besides giving a good margin for incidentals and improvements. Last December she was the largest exhibitor at the poultry show, winning her share of premiums. She sends for the best when she imports stock, last year spending over $100 for eggs and $90 for fowls, out of the chicken business, remember. It is needless to say, of course, that Miss Asbeck attends carefully and methodically to all the little details in the daily round of work.

Mr. Schluter's Sheet Anchor.

In another column there is an account of Wil. Schluter's cornfield in the Livermore valley. Mr. Schluter has a dairy, but his main hold is chickens. He has about 500 healthy young pullets now. He tells the *Herald* that his poultry runs his ranch of 180 acres and pays his living expenses. Mr. Schluter makes his chickens pay because he goes at it patiently and intelligently. He will hatch more eggs in an incubator and raise more chicks after they are hatched than any other man in Livermore valley, and it is just because he does everything right, just as he planted his corn patch. Pretty soon eggs are going to be worth money, and butter will come up fortified with his splendid cornfied. With the soft and succulent Egyptian corn for his hens, they will outlay all his neighbor's hens, and his cows fed upon the nutritious juices of green corn fodder will give down more butter fat than any dry fed cows in the valley. His skimmed milk from the creamery mixed with bran and middlings is a splendid relish for his chickens, and so his poultry helps him to make his dairy pay.

Tobacco Stems for Nests.

When a hen is set, especially in a warm climate, every precaution should be taken to keep her free from lice. It is impossible for her to attend to her incubating duties and at the same time take the necessary exercise and picking to keep the lice from gaining on her. One of the best substances to make a hen's nest and aid in this respect is tobacco stems, which can be bought from almost any dealer in fertilizing material. They should be slightly dampened when the nest is first made, so that the hen can easily place them into shape to make a comfortable nest.

THE HOME CIRCLE.

While the Heart Beats Young.

While the heart beats young!—O the splendor of the Spring,
With all her dewy jewels on, is not so fair a thing—
The fairest, rarest morning of the blossoming time of May
Is not so sweet a season as the season of to-day
While Youth's diviner climate folds and holds us, close caressed.
As we feel our mothers with us, by the touch of face and breast;—
Our bare feet in the meadows, and our fancies up among
The airy clouds of morning—while the heart beats young.

While the heart beats young and our pulses leap and dance,
With every day a holiday and life a glad romance,—
We hear the birds with wonder, and with wonder watch their flight—
Standing still the more enchanted, both of hearing and of sight,
When they have vanished wholly—for, in fancy, wing to wing,
We fly to Heaven with them; and, returning, still we sing
The praises of this lower Heaven with tireless voicé and tongue,
Ev'n as the Master sanctions—while the heart beats young!

While the heart beats young!—While the heart beats young!
O green and gold old Earth of ours, with azure overhung
And looped with rainbows!—grant us yet this grassy lap of thine—
We would be still thy children, through the shower and the shine!
So pray we, lisping, whispering, in childish love and trust,
With our beseeching hands and faces lifted from the dust,
By fervor of the poem all unwritten and unsung,
Thou givest us in answer, while the heart beats young.

—James Whitcomb Riley, in August Ladies' Home Journal.

A Pariah.

"I have heard that there is corn in Egypt."

Slyne's Chare is in South Shields, and Mason's chop house stands at the lower corner of Slyne's Chare—Mason's chop house, where generations of honest Tyneside sailors have consumed honest pounds of mutton and beef, and onions therewith. For your true salt loves an onion ashore, which makes him a pleasanter companion at sea. Mason's chop house is a low-roofed, red-tiled, tarred cottage, with a balcony—a "balcohny" overhanging the river. It is quite evident that the "balcohny" was originally built, and has subsequently been kept in repair, by ship's carpenters—it is so glaringly ship-shaped, so redolent of tar, so ridiculously strong.

The keen, fresh breeze—and there is nothing keener, fresher, stronger and wholesomer in the world than that which comes roaring up between the two piers of the Tyne—this breeze blows right through Mason's and blows the fume of cooking out into Slyne's Chare.

It is evening—tea time—and the day's work is almost done; for Mason's does little in suppers. A bullet-headed boy is rubbing pewter pots at the door. Mrs. Mason, comfortably somnolent at the entrance of the little kitchen, watches her daughter, comely, grave-faced Annie Mason—"our Annie," as she is called, who is already folding the tablecloths. A few belated customers linger in the partitioned loose boxes which lend a certain small privacy to the tables, and often save a fight. They are talking in gruff, north country voices, which are never harsh.

A man comes in, after a moment's awkward pause at the open door, and seeks a secluded seat where the gas overhead hardly affords illumination. He is a broad-built man—a Tynesider; not so very big for South Shields, a matter of six feet one, perhaps. He carries a blue-spotted handkerchief against his left cheek, and the boy with the pewter pots stares eagerly at the other. A boy of poor tact, this; for the customer's right cheek is horribly disfigured. It is all bruised and battered in, from the curve of a square jaw to the cheek bone, which is broken. But the eye is intact, a shrewd, keen eye, accustomed to the penetration of a northern mist, accustomed to a close scrutiny of men's faces. It is painfully obvious that this sailor—for gait and clothes and manner set aside all other crafts—is horribly conscious of his deformity.

"Got the toothache?" inquires the tactless youth.

"The newcomer replies in the negative, and orders a cup of tea and a herring. It is Annie who brings the simple meal and sets it down without looking at the man.

"Thanks," he growls in his brown beard, and the woman pauses suddenly. Then she slowly turns—for she had gone a step or two from the table—and makes a pretense of setting salt and pepper close to him.

Three ships had come up with the afternoon tide—a coaster, a Norwegian bark in ballast, and a full-rigged ship with nitrate from the west coast of South America.

"Just ashore?" inquired Annie, economical with her words, as they mostly are round the northern river.

"Ay!"

"From the west coast?"

"Ay," grumbles the man. He holds the handkerchief to his cheek and turns the herring tentatively with a fork.

"You'll find it's good enough fish," says the woman, bluntly. Her two hands are pressed to her comely bosom in a singular way.

"Ay," says the man again, as if he had no other word.

The clock strikes six, and the boy, more mindful of his own tea than his neighbor's ailments, slips on his jacket and goes home. The last customers dawdle out with a grunt intended for a salutation. Mrs. Mason is softly heard to snore. And all the while Annie Mason, all the color vanished from her wholesome face, stands with her hands clutching her dress, gazing down at the man, who examines the herring with a self-conscious awkwardness.

"Geordie!" she says. They are all called Geordie in South Shields.

"Ay, lass," he answers, shamefacedly.

Annie Mason sits down suddenly, opposite to him. He does not look up, but remains, his face half hidden by the blue spotted handkerchief, a picture of self-conscious guilt and shame.

"What did ye do it for, Geordie?" she asks, breathlessly. "Eleven years, come March—oh, it was cruel!"

"What did I do it for?" he repeats. "What did I do it for? Why, lass, can't ye see my face?"

He drops the handkerchief and holds up his poor scarred countenance. He does not look at her, but away past her with the pathetic shame of a maimed dog. The cheek thus suddenly exposed to view is whole and brown and healthy. Beneath the mahogany-colored skin there is a glow singularly suggestive of a blush.

"Ay, I see your face," she answers, with a note of tenderness for the poor scarred cheek. "I hope you haven't been at the drink."

He shakes his head with a little sad smile that twists up his one-sided mouth.

"Is it because you wanted to get shot of me?" asks the woman, with a sort of breathlessness. She has large, gray-blue eyes with a look of constant waiting in them—a habit of looking up at the open door at the sound of every footstep.

"Annie, could I come back to you with a face like this, and you the prettiest lass on the Tyneside?"

She is fumbling with her aprou string. There is a half coquettish bend of her head—with the gray hairs already at the temple—awakened, perhaps, by some far-off echo in his passionate voice. She looks up slowly, and does not answer his question.

"Tell us," she says, slowly, "tell us where ye've been."

"Been! Oh, I don't know, lass! I don't rightly remember. Not that it matters. Up the west coast trading backwards and forwards. I've got my master's certificate now. Serving first mate on board the Mallard to Falmouth for orders, and they ordered us to the Tyne. I brought her round—I knew the way. I thought you'd be married, lass. But maybe ye are."

"Maybe I'm daft," puts in Annie, coolly.

"I greatly feared," the man goes on, with the slow self-consciousness of one unaccustomed to talk of himself, "I greatly feared I'd meet up with a bairn of yours playing in the doorway. Losh! I couldn't have stood that! But that's why I stayed away, Annie, lass, so that you might marry a man with a face on him. I thought you would not know me if I held my handkerchief over my other cheek."

There is a strange gleam in the woman's eyes—a gleam that one or two of the old masters have succeeded in catching and imparting to the faces of their Madonnas, but only one or two.

"How did you come by your hurt?" she asks, in her low voice.

"Board the old Wallerloo going out. You mind the old ship. We had a fire in the hold, and the skipper he would go down alone to locate it before we cut a hole in the deck and shipped the hose in. The old man did not come up again. Ye mind him. Old Rutherford of Jarrow. And I went down and looked for him. It was a hell of smoke and fire, and something in the cargo stinking like—hell fire as it burnt. I got a hold of the old man, and was fetching him out on my hands and knees, when something bursts up and sends us all through the deck. I had three months in the Valparaiso hospital; but I saved old Jack Rutherford of Jarrow. And when I got up and looked at my face I saw that it was not in the nature of things that I could ever ask a lass to have me. So I just stayed away and made believe that—that I had changed my mind."

The man pauses. He is not glib of speech, though quick enough at sea. As he takes up the little teapot and shakes it roundwise, after the manner of the galley, his great brown hand shakes, too.

"I would not have come back here," he goes on after a silence, "but the Mallard was ordered to the Tyne. And a chap must do his duty by his shipmates and his owners. And I thought it would be safe—after eleven years. When I saw the old place and smelt the smell of the old woman's frying pan I could not get past the door. But I hung around, looking to make sure there were no bairns playing on the floor. I have only come in, lass, to pass the time of day, and to tell you ye're a free woman."

He is not looking at her. He seems to find that difficult. So he does not see the queer little smile, rather sadder in itself than tears.

"And you stayed away eleven years—because o' that," says the woman, slowly.

"Ay; you know, lass, I'm no great hand at the preaching, and Bibles, and the like; but it seems pretty clear that them who's working things did not think it fit that we should marry. And so it was sent. I got to think it so in time—least I think it's that sometimes, and no woman would like to say, 'That's my man—him with only half a face.' So I just stayed away."

"All for that?" asks the woman, her face, which is still pretty and round and rosy, working convulsively.

"Ay, lass."

"Then, honey," she cries, softly, "you dinna understand us women."—Cornhill.

Introducing People.

"How shall I perform an introduction?" inquires a girl who likes to do things gracefully, and who is entirely right in her notion that for most things there is a right way and also a wrong way.

Introducing people is neither difficult nor occult, and it requires no special training. There are a few very simple rules to be observed. You present a gentleman to a lady, and a younger to an older person. You are careful to speak clearly and distinctly, for nothing is more embarrassing than to have a stranger's name mumbled so that it remains unknown, thus defeating the end of the introduction. You do not say, "Mother, let me present my classmate," leaving your mother to guess at the part of your speech which was really the most important; you say, "My classmate, Miss Leonard." And equally when you are introducing Miss Leonard to your friend you do not say, "Alice, may I introduce my cousin Sophie," in which case neither young woman would have the least idea of the other's Christian name. If a person is a personage—a professor, or doctor, or clergyman, or in any way noted or famous—the tactful girl makes the title a part of her introduction, so that the people presented to him are aware that they are honored by the new acquaintance.—Harper's Round Table.

Golden Wand of Tact.

"My dear girl," writes Ruth Ashmore in response to a girl inquirer in August *Ladies' Home Journal*, "you fail socially because you look uninterested, you stand off and have a don't-care expression on your face. This drives would-be acquaintances away, and suggests to a hostess that if you do not care, and show it so plainly, she need not care to send you cards another time. Society is really based upon the Golden Rule, and it demands from you not only sympathy, but that outcome of the best of sympathy, tact. To be a social success you must learn to say the right things to the right people. Do not talk about flirting widows to a woman in mourning, nor of the value of beauty to an aged spinster forced to wear blue glasses. The aged spinster may be a perfect well of learning and wit. You will find this out if you touch her with the golden wand of tact. Possibly you are nervous and shy. Try to overcome that. Force yourself to say something. If you are unfortunate enough to be easily embarrassed, at least get used to the sound of your own voice, and then you will not find yourself screaming from sheer nervousness when you wish to speak low, or whispering in a husky manner when your words should be distinct. To be a social success you must govern your voice, and usage is the only thing that will make that possible. Do not be afraid to speak of simple things. There is no man too learned not to be interested in that which interests a pretty girl, and no woman too old or too world-worn not to care about ribbons or flowers, sweetmeats or novels. Learn, after you have learned to speak, to listen, and to listen intelligently. Express your interest through your eyes, and when it is needed say the encouraging word that, like hot water on the tea, brings out the strength.

The Homely Girl.

The plain girl makes the ideal wife. In the first place, women who are plain are conscious of the fact and it destroys their inner graces and it is generally the woman of irregular feature and bad complexion who is gentle and unselfish. Such a woman, though unattractive to the superficial observer, will always possess some subtle charm for one who studies her. Some tenderness of smile or speech, some light in the eyes will

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make her beautiful by flashes, as it were, and render her far more interesting than the woman whose prettiness is a question of such mere externals as delicacy of coloring and symmetry of form.

Not that beauty is to be disparaged; by no means, for the union of the interior with the exterior beauty is the most valuable possession vouchsafed to woman. The danger consists in confusing one for the other, the fair face for the noble heart.

Dinner Table Talk.

Boram abhors anything frivolous, and when he sat down to dinner the other day it was with a determination to carry on a rational and pleasant conversation such as the doctor had assured him would promote digestion and good health. "There was one remarkable thing about the St. Louis con———" he began.

"Quit scrouging me," shouted the youngest as he landed on the short ribs of his sister with a pointed elbow.

"There was one remark———"

"Jist a drop more cream in this here coffee," from the country uncle, who was in to spend a few days, to the head of the table.

"Ahem! There was one———"

"I scorched dn the avenue last night," broke in the shock headed boy, who is in the seventh grade. "I wasn't skeered of no policeman. I give him the hyenar laugh."

"There was one remarkable———"

"Sarah, when I sound the buzzer you are expected to respond at once," said Mrs. Boram, as the maid-of-all-work appeared. "Help Mr. Boram to some more butter."

"There was on———"

"I don't mind Edith Wobberly borrowing books from me," broke in the eldest, "but she's either got to return them or I will choke off the supply. Some people never know when they have a good thing."

"There wa———"

"There has been so much rain this season that we can't count on more 'an half a crop of anything. Never saw the like in my life. I'm clean discouraged," and the bucolic uncle mopped his florid countenance with a bandana.

"Were you going to say something, papa?" queried Mrs. Boram of her husband.

"Not a thing. Don't let me interrupt this highly edifying conversation. Pass the red pepper."—Detroit Free Press.

Chaff.

Mr. Figg—Tommy, I hear you have been telling lies. I never told lies when I was your age.

Tommy—When did you begin, paw?

PROFESSOR SMITH: "No one can conceive of the slow and awful lapse of geological time." Brown: "I don't know. I've had a carpenter working for me by the day."—Exchange.

A GERMAN paper contains the following unique advertisement: "Any person who can prove that my tapioca contains anything injurious to health will have three boxes of it sent to him free of charge."

LITTLE PHILIP had just returned from Sunday-school and was eating some candy. Mother: "Philip, give your sister some of your candy." "Philip: "Nope!" Mother: "Why not?" Philip: "'Cause my Sunday-school teacher told me to 'cleave to that which was good.'"

A STORY is told of two Irishmen who were caught asleep one night in the loft of a burning building. One of them hastily drew on his trousers, and jumped from the window. In his fright and hurry he had unconsciously pulled on the garment wrong side foremost, with an effect which, when he recovered his equilibrium after the jump, excited his profound consternation. "Pat! Pat!" called out his companion still in the loft: "air ye kilt intirely?" "No, Moike," replied Pat, in hopeless tones. "It's not kilt Oi am, me bye; but I fear me Oi'm fatally twisted!"

The Baby Show.

"Our baby is the prettiest in the village," said Bob Bunting. He looked around, as if to defy any one to contradict him; for a moment no one spoke. But at last a shrill voice piped up:

"No, ours is."

It was Tom Jinks who uttered the words, and he pushed his carriage up against that which Bob Bunting was propelling, as much as to say: "There, now, look at them both. Make your own decision."

Everybody looked at the babies. Baby Bunting was a big baby, with black eyes, red cheeks, a rosy mouth, and a head of tiny black curls at an age when many babies had no hair at all, and was always laughing.

Baby Jinks was a delicate little fellow, with one yellow curl hanging over his forehead, and the rest of his head covered with down, like a little chicken. His blue eyes were very soft, and his chin had a dimple in it. He was not so fine as Baby Bunting, but he was a great deal sweeter.

Tom looked at him admiringly, and looked at Bob determinedly, added:

"So he is. There now!"

"Oh, pshaw!" said Bob. Your baby may be a good baby and you may love it, but nobody can look at the two for a minute and not know ours is seven hundred thousand times as handsome."

Something in his tone, rather than in his words, enraged Tom, and he pulled off his jacket.

"Somebody hold my wagon!" he cried, in his high, shrill voice. "Bob Bunting has got to fight this out!"

Everybody started in amazement. Bob was twice Tom's size, and had rather a reputation for fighting. A fine one, the boys thought it; a bad one the mothers voted it. Mothers always do differ from boys on those subjects. Bob was the butcher's son and fed on the best of beef. Tom's father was a lame little tailor, and Tom was going to learn his trade, but evidently it would not take nine of him to make a man.

"Bob has got to fight it out," he repeated, "and I guess when he gets through he'll be willing to own up that our baby beats his."

Thus challenged, Bob could do no less than to pull off his jacket.

"I wasn't looking for trouble," he said, "but if you want to fight, I'm ready. Who'll hold the kid while I finish that fellow?"

At this moment he experienced a surprise. A big hand came down on his coat collar and lifted him up to the top of a high stone wall behind him, and perched him there, and another landed Tom Jinks in the same place.

"If either of you wants a flogging, I can give it to you," and a gruff voice.

And the boys saw that Squire Evans, the biggest as well as the richest man in the place, had elevated them to the position they occupied.

"Fighting is no way to settle a thing of that kind," he said. "Put it to the vote. You think your baby is the prettiest in the village, Bob!"

"*Of course* I do," Bob answered.

"And *you* say yours is, Tom?"

"I know it," said Tom, politely but firmly.

"Let the ladies decide it," said the Squire. "They know all about babies."

Full half a dozen little girls who had been up to the minister's house to say their catechism, had paused to listen, and more now ran up.

"Here are plenty of them," said the Squire, opening his gate. "Now come in, all of you. The question under discussion, girls, is, which baby in the village is the handsomest. These boys each wants to fight for his own brother, but I'm going to make you vote for it, and the one who gets the most votes is entitled to be called 'The Beauty Baby of Green Village.'"

Meantime he had taken from his pocket a little pad of paper, and gave a piece to each girl.

"I'll lend you each my pencil in turn," he said, "and each of you must write on a piece of paper the name of the baby who seems to her most beautiful, fold it and drop it into my hat. Then I count them, and I shall give a prize to the one who has the most votes. Understand?"

"Yes, sir," cried the girls in chorus, and all thought it fine fun.

Meantime, Bob felt sure his mother's baby would win the prize, and Tom was equally certain that his tiny brother would be elected to be the beauty of Green Village. Each reached over and got the handle of the carriage he managed and held it with his foot as he sat in his lofty position. As for the little girls, each in turn wrote something on the paper, and folded it and put it in the Squire's hat. It took a long while for them to write, but no one showed the least indecision. They had evidently all made up their minds beforehand.

The squire was growing somewhat curious as to which baby would come off best, and when the last had written, he picked up his hat, placed it on his knees and unfolded the papers one by one.

There were fourteen in all, and as he read his mouth began to turn up at the corners. The little girls had been asked which was the most beautiful baby in Green Village, and each had written the name of their own family baby. Nobody had mentioned Baby Jinks or Baby Bunting anywhere.

The Squire read the names out one by one, and burst into a jolly laugh.

"Each of the young ladies holds a different opinion, it seems," he said. "And the young men still hold to theirs. Therefore I have nothing to do but to pronounce every baby in Green Village the most beautiful ever seen and offer a prize to each. Follow me, all of you."

Then the Squire led the children in procession to a toy store, and bought a rattle for each baby on the list. The two handsomest were for Baby Bunting and Baby Jinks. These were exactly alike.

"Evidently, ladies," he added, "you understand the use of the ballot." But the little girls had to ask their mothers what he meant by that.—N. Y. Ledger.

Baby's Sleep.

Every mother should see that her little one has regular hours for long naps. In the morning, usually the busiest in the household, the baby should be accustomed to have a long sleep. Many mothers are careful to put the child away from all noise and suppress any that the other children may make, in order that he may not be disturbed. This is a good plan, but it may be carried to extremes.

Many babies sleep just as well after they are accustomed to certain noises about them. Unless the sewing machine runs too noisily, it need not be stopped when the baby is put to sleep. Conversation, provided it is carried on in a low voice, would seldom disturb a sleeping child unless he was of an unusually nervous temperament. The baby's naps are as essential to his good health as rest is to the mother.

New Trimming.

Ellis Island, in New York Harbor, is where the immigrants who come from Europe are landed before they are admitted to this country. Sometimes these people have to stay two or three days or more on the island. Recently there were landed at the island a mother and three little girls. After they had been examined, they came to the city; but the mother had not spent her time in idleness while on the island. She had spent it in walking about the place with her children, and in making them look prettier. In her walks she found scallop shells. These she polished and made into eqaulets, and fastened them on the shoulders of the little girls' dresses. The mother had carefully picked out shells to match the children's dresses; and the children, as well as the mother, were evidently charmed with the unique trimming.

A KEROSENE OIL STAIN evaporates after a time, leaving scarcely a trace behind. If you wish to hasten the process, cover the spot with wheat flour, leave it for twenty-four hours, brush off the flour and repeat if necessary. To remove a grease spot from the leaf of a book, cover the blemish with finely powdered French chalk, brush it off and repeat the process until the spot disappears.

DOMESTIC ECONOMY.

Pickling Gherkins.

TO THE EDITOR:—My business before coming to California, in 1854, was canning and preserving in glass; therefore, I can give C. P. Nettleton a reliable recipe for gherkins ("sweet pickles.") Into one gallon of strong vinegar, cider preferred, put two pounds granulated sugar, one teacup of salt, six ounces of mace (tied up in three separate pieces of cheese cloth), two ounces each of whole spices: mustard seed, pepper, cloves, cinnamon, allspice and powdered alum. Place all on the stove, in a granite or porcelain kettle, and heat to a boiling point. Then pour out into a two-gallon stone jar. When perfectly cold, wash and wipe dry 300 gherkins, dropping them into your spiced vinegar. Let them stand ten days and then bottle cold.

Brentwood. MRS. S. M. HOVEY.

Recipes.

BREAD AND CHEESE OMELET.—Pour one cup of boiling milk or cream over a cup of crumbs, and when the latter have absorbed all the milk, season with salt and pepper, and stir in half a cup of grated cheese with four beaten eggs. Cook and fold like an ordinary omelet.

PUREE OF PEAS.—Cook together one tablespoonful of butter and two tablespoonfuls of flour, add two cupfuls of peas cooked very tender in just enough water to cover them, and rubbed through a sieve, also the water in which the peas were cooked and two cupfuls of veal or chicken broth. Let simmer ten minutes, season and serve.

VEAL WITH DUMPLINGS.—Cook the veal as for fricassee, allowing twice the liquid when done, and thickening in in same proportion. After taking out the bones and skimming off the scum, if there should be any, return the meat to the thickened liquor, and instead of frying the biscuits as for fricassees, lay the blocks of dough closely side by side over the meat and boil till done. An average dumpling, boiling constantly, will cook in twenty minutes. Serve with baked potatoes. Garnishings may be used or not, as one pleases or can. But all these dishes are beautified with the addition of parsley or nasturtium leaves and blossoms. Either of these are easily grown in the kitchen window for the purpose.

APPLE CHARLOTTE.—Soak one-third of a package of gelatine in one-third of a cup of cold water an hour. Peel and quarter tart apples enough to make one pint when they are steamed. While hot rub them through a sieve; pour a cup of boiling water over the soaked gelatine and stir until it is dissolved; add the gelatine to the apples with one cup of sugar and the juice of one lemon. Stand the bowl containing the mixture in a pan of ice water, and beat until it is very light and begins to thicken; then stir in a generous quart of whipped cream, taking care always to stir from the bottom of the bowl. When it will just pour turn it into a lined mould and put in a cold place.

LEMON OR ORANGE JELLY.—A lemon or orange jelly made with gelatine may be made into a choice dessert if hardened in individual moulds, with a preserved or canned peach in the center of each one. Cut the peaches in halves and fill the cavity that contained the pit with chopped almonds, almond paste, a chocolate cream, or any candied fruit. Drain the fruit from its syrup before using. Pour a layer of the jelly before it has hardened in the mould, put in the fruit and then fill the mould up with the liquid jelly. Fresh peaches may be used in the same way, and a large mould filled, instead of using small moulds. On serving such a jelly, a spray of green leaves or pink blossoms may be laid on each plate.

A Drop of Water.

The water which is now in the ocean and in the river has been many times in the sky. The history of a single drop taken out of a glass of water is really a romantic one. No traveller has ever accomplished such distances in his life. That particle may have reflected the palm trees of coral islands, and has caught the sun ray in the arch that spans a cloud clearing away from the valleys of Cumberland or California. It may have been carried by the Gulf Stream from the shores of Florida and Cuba, to be turned into a crystal of ice beside the precipices of Spitzbergen. It may have hovered over the streets of London, and have formed a part of the murky fog, and have glistened on the young grass blade of April in Irish fields. It has been lifted up to heaven and sailed in great wool-pack clouds across the sky, forming part of a cloud mountain echoing with thunder. It has hung in a fleecy veil many miles above the earth at the close of long seasons of still weather. It has dropped as fleecy snow in the high Sierras, has washed gold in Nevada Co., furnished electricity at Sacramento, glistened in the sunlight of San Francisco bay, raced through the Golden Gate, hissed in spray on the Farallones, or swept over the bow of a vessel rounding Cape Horn. It has descended many times over in showers to refresh the earth, and has sparkled and bubbled in mossy fountains in every country in Europe. And it has returned to its native skies having accomplished its purpose, to be stored once again with electricity to give it new life-producing qualities and equip it as heaven's messenger to earth once more.

At 60 miles an hour the resistance of a train is four times as great as it is at 30 miles—that is, the fuel must be four times as great in the one case as it is in the other. But at 60 miles an hour this fuel must be exerted for a given distance in half the time that it is at 30 miles, so that the amount of power exerted and steam generated in a given period of time must be eight times as great at the faster speed. This means that the capacity of the boiler, cylinders, and the other parts must be greater with a corresponding addition to the weight of the machine. Obviously, therefore, if the weight per wheel, on account of the limit of weight that the rails will carry, is limited, we soon reach a point when the driving wheels and other parts can not be further enlarged, and then we reach the maximum of speed. The nice adjustment necessary of the various parts of these immense engines may be indicated by some figures as to the work performed by these parts when the locomotive is working at high speed. Take a passenger engine on any of the big railroads. At 60 miles an hour a driving wheel five and one-half feet in diameter revolves five times every second; now the reciprocating parts of each cylinder, including one piston, piston rod crosshead and connecting rod, weighing about 650 pounds, must move back and forth a distance equal to the stroke, usually two feet, every time the wheel revolves, or in a fifth of a second. It starts from a state of rest at the end of each stroke of the piston, and must acquire a velocity of 32 feet per second in one-twentieth of a second, and must be brought to a state of rest in the same period of time. A piston 18 inches in diameter has an area of 254½ square inches. Steam of 150 pounds pressure per square inch would, therefore, exert a force on the piston equal to 38,175 pounds. This force is applied alternately on each side of the piston 10 times a second.

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Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Testimonials sent free. Price 75c. per bottle. Sold by all Druggists.

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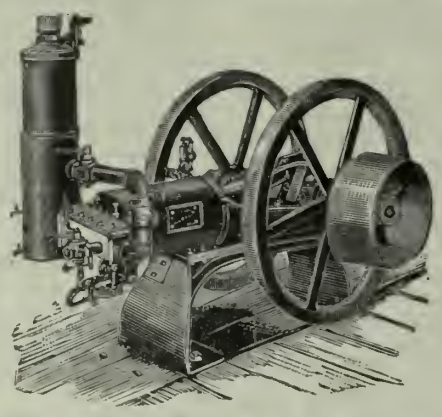

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Will furnish power for one-tenth of a cent per horse power per hour. It is the cheapest power ever produced, as shown in the following table, and which is based upon a test of ten hours' run with one of our five-horse power Gasoline Engines, using gasoline (74°), coal gas, common domestic coal oil, crude petroleum, asphaltum base, crude petroleum, paraffine base, as follows:

Coal Gas, ten hours' run, 1000 feet	$2 00
Gasoline (74 deg.), ten hours' run, 8¾ gallons @ 14c.	1 25
Coal Oil, ten hours' run, 7½ gallons @ 10c	75
Crude Petroleum, asphaltum base, 16 gallons @ 3c	48
Crude Petroleum (36 deg.), paraffine base, 13 gallons @ 5c	65

On the crude petroleum with asphaltum base we had an over-product of 7 gallons of asphaltum; the market price is 3 cents per gallon=21 cents. This deducted from the first cost of the crude petroleum for ten hours' run leaves a net balance of 27 cents. And from the crude oil with a paraffine base we had an over-product of 3 gallons of good lubricating oil, which we consider equal to any we have ever used, but will estimate its value conservatively at 20 cents per gallon, making 60 cents; this deducted from the first cost of the crude oil leaves a balance of 5 cents, total cost of running ten hours.

It will be readily seen that the operation of these Engines with crude petroleum reduces the cost of operation to a minimum. Crude petroleum with paraffine base at 1-10c per horse power per hour; on crude petroleum, asphaltum base, ¼c per horse power per hour; on domestic coal oil, 1½c per horse power per hour; and on gasoline, 2½c per horse power per hour.

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In charge of the horses in the Chicago Fire Dept.

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Horse Medicine!

D. D. T., 1868.

Will Remove All Callous Lumps, Spavins, Wind Galls, Ring Bone, Pole Evil, and Will Cure Sweeney, Scratches, Sore Shoulders, Distemper, Contraction of Leaders, Fistula, and All Blemishes on the Horse.

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Do not be deceived by anyone who says he has as good or better liniment than the H.H.H., for he is an impostor and you will surely waste your money if you buy it. Insist on having the H.H.H. and no other. Examine every bottle to see if the name of Henry H. Moore is on label pasted on bottle, and the firm name is on outside cover of wrapper, before you buy it.

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Width of tire, 6 in.; height of bolster, 30 in. Carries any size platform or bed. Wheels turn under the load. Nothing equal to it for Farm, Orchard and Vineyard. Four sizes, one horse to six horses. Fully guaranteed. Write for Catalogue. Agents wanted. W. C. RARIG, General Agent, 157 New Montgomery Street, San Francisco, Cal.

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The Uses of Responsibility.

Every mother should remember that the making of her daughter is of far greater importance than the administration of things in her house, and every daughter should realize that she can learn to avoid mistakes only when she sees them. She enjoys most seeing her mother's mistakes and resolving that when she has a house she will "never do so." A beginning may be made with a small and comparatively unimportant responsibility, and it is to be remembered that responsibility, and not mere work, is the great thing. The very little girl may have the care of one plant, a hardy one to begin with, but system and neatness may be practiced in its care to great advantage. If the plant should be a blooming one, a small vase for the breakfast table would give an additional bit of care and pleasure to both child and parents. Regularity, thoroughness, quietness in labor, may be practiced under a wise mother's influence till they become a part of her daughter's character.

A Good Cement.

"An excellent cement for mending almost anything," said an experienced housewife recently, "made be made by mixing together litharge and glycerine to the consistency of thick cream or fresh putty. The cement is useful for mending stone jars or any coarse earthenware, stopping leaks in seams of tin pans or washboilers, cracks and holes in iron kettles, etc. It may also be used to fasten on lamp tops, or tighten loose nuts, to secure loose bolts whose nuts are lost, to tighten loose joints of wood or iron, or in many other ways about the various kitchen utensils, the range, sink and in the pantry fittings. In all cases the article mended should not be used until the cement has hardened, which will require from one day to a week, according to the quantity of cement used. This cement will resist the action of water, hot or cold, acids, and almost any degree of heat."

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING JULY 26, 1896.

564,818.—SEWING MACHINE—F. M. Batchelor, Portland, Or.
564,955.—TROLLEY WHEELS—Brunswick & Johnson, Los Angeles, Cal.
564,737.—IGNITER FOR GAS ENGINE—T. G. Cantrell, S. F.
564,599.—CAR FENDER—P. P. Donahoo, S. F.
564,605.—FRUIT HOLDER—T. S. Fitch, S. F.
564,750.—NUT LOCK—J. C. Holloway, S. F.
564,826.—BOTTLE CLOSURE—W. Laudahn, Port Angeles, Wash
564,827.—CAR FENDER—P. E. Law, Santa Barbara, Cal.
564,897.—PUMP—F. Orton, S. F.
564,769.—GAS ENGINE—H. Swain, S. F.
564,851 —CAR AXLE BOX—A. A. Weher, S. F

NOTE.—Copies of U. S. and Foreign patents furnished by Dewey & Co. in the shortest time possible (by mail for telegraphic order). American and Foreign patents obtained, and general patent business for Pacific Coast inventors transacted with perfect security, at reasonable rates, and in the shortest possible time.

FOR centuries the finest colored turquoises have come from Persia, but these mines are now almost exhausted. New Mexico is now the principal source of supply, and the search for these stones has proven the most profitable gem mining in the United States. The total American sales from 1890 to the beginning of 1894 were $500,000. While much of the product is pale in color, a considerable quantity is of robin's-egg blue, equal to the finest Persian stones, and a single piece is reported to have sold for $4000.

A VIBRATING helmet for the cure of nervous headaches has been devised by a French physician. It is constructed of strips of steel, put in vibration by a small electromotor, which makes 600 turns a minute. The sensation, which is described as not unpleasant, produces drowsiness; the patient falls asleep under its influence, and awakes to find that the pain has ceased.

THE Petaluma, Cal., Electric Light & Power Company propose to spend $40,000 this summer in further improvements.

Breeders' Directory.

Six lines or less in this directory at 50c per line per month.

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WELLINGTON'S IMPROVED EGG FOOD for poultry. Every grocer and merchant keeps it.

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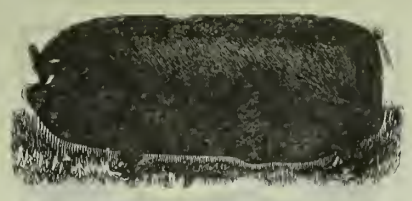

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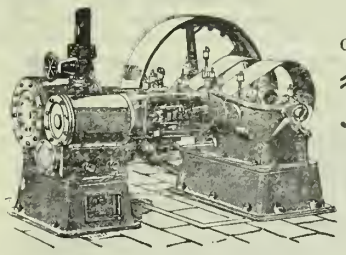

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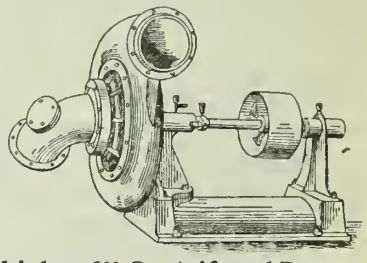

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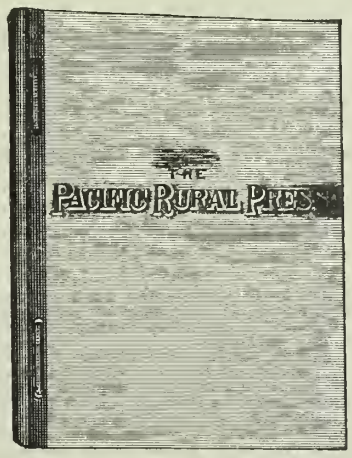

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A New Boat.

Mr. Apostoloff, a Russian electrical engineer now in England, claims to have made a boat that will transport people from England to America in twenty-eight hours. It is made of toughened steel, shaped like a fish, the tail comprising the rudder. Round the body of this cigar-shaped construction a helix completes twenty-eight turns. Within this outer casing there is another shell, so placed and weighted that it remains perfectly stationary while the two-thirds of the exterior form to which the helix is fixed revolves with great rapidity. Thus it will be seen that the ship screws instead of pushes its way through the water. A shaft runs longitudinally through the center of the boat, fixed at either end to those parts of the outer casting which do not revolve, and upon this rests the inner portion, including both the passenger accommodation and the machinery used in propelling the boat. The Plongeur, as it is called, is capable of either floating on the water, or remaining below the level of the sea for thirty-eight hours without returning to the surface. The inventor says his boat will travel under water at the rate of 120 knots an hour, and will cost £20,000. He has been maturing plans for the last seven years. In the naval warfare of the future the boat is likely to play an active part.

The abandonment of profit sharing by so many firms in the United States leads *The National Labor Tribune* of Pittsburg to say: "The workmen ask a share in the business that is to yield them the fruits of prosperity without imposing any of the burdens of adversity. They would share gain but not loss. It is here that profit sharing fails. The system cannot be natural because it is not just. Like the handle on a jug, the benefit is all on one side. If the workmen consider themselves entitled to a financial interest in the firm they should be prepared to pay their pro rata assessment of loss as well as pocket their share of the gain The sliding scale system of wages, which the Amalgamated Association of Iron and Steel Workers favor, is recommended as a better one than the ordinary profit-sharing plan."

One frequently hears of people dying from "over exertion." Continuous work rationally performed rarely causes death. It is the pace that kills. Laboring at high pressure for a short time, no matter how long a vacation may follow, is unnatural, and unless the person attempting it is in the first flush of manhood he never recovers what he has lost in his attempt to crowd a day's work into a comparatively few hours. "Wisely and slow, they stumble that run fast," is as practical an adage as when Shakespeare wrote it, in times when there was not so much hurry in life as there is at present. More can be accomplished in the end by quiet, persistent endeavor than by occasional spurts at lightning speed.

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Keep your baggage checks until you reach San Francisco and you will save money by leaving same at any of our offices, our rates being lower than all others, viz., Trunks, 35 cents each. N. B.—We do not have any agents on the trains or steamers. MORTON SPECIAL DELIVERY, 408 Taylor St., 650 Market St., and Oakland Ferry Depot (foot of Market St.). *

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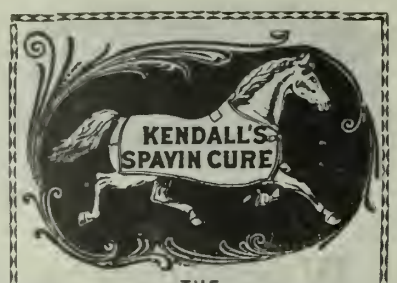
Horse Owners! Try GOMBAULT'S Caustic Balsam

A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. *Impossible to produce scar or blemish.* Every bottle sold is warranted to give satisfaction Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland O.



THE MOST SUCCESSFUL REMEDY FOR MAN OR BEAST.

Certain in its effects and never blisters. Read proofs below:

KENDALL'S SPAVIN CURE

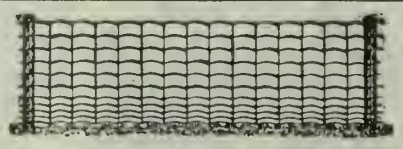
SHELBY, MICH., Dec. 16, '93.

DR. B. J. KENDALL CO.

Sirs:—I have used your Kendall's Spavin Cure with good success for **curbs** on two horses and it is the best Liniment I have ever used.

Yours truly, AUGUST FREDRICK.

For Sale by all Druggists, or address *Dr. B. J. KENDALL COMPANY,* ENOSBURGH FALLS, VT.



BUFFALO HUNTING.

Everybody can now indulge in this pastime. Here are a few hints: Buy excursion tickets to your State Fair! Take the whole family along. The "kids" can watch the deer and fawns while you keep your eye on the big game. Once inside the grounds, lay low and watch the crowd till you locate our exhibit, then charge on it with a wild whoop. Send for pictures.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

William McKinley

Is the Republican standard bearer and the champion for protection. If he is elected we hope it be for the country's welfare. This, however, is a matter of conjecture; but it is a *dead sure thing* that if you buy your supplies through the Home Library and Supply Association you will save from 10 to 40 per cent. We furnish everything at deeply cut prices: but some of our specialties are Buggies, Bicycles, Barb Wire, Clothing, Furniture, Groceries, Musical Instruments, Shoes, Sewing Machines, Watches, etc.

Write for terms of membership and get our prices before buying elsewhere. Address

J. H. WOOD & CO., Managers, 14 Sansome St., San Francisco, Cal.

FARMS FOR RENT.

To Lease on Shares or for Cash, 320 acres level land, fenced, all been in grain. House and barn. Situate two miles from railroad station in Butte county, California.

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To Lease on Shares or for Cash, 4500-acre improved farm, fenced. House, barns, blacksmith shop on the premises. About 1000 acres summer-fallowed. Horses and implements can go with the farm. Situate in Colusa and Glenn counties. Railroad station adjoins the land. First-class opportunity. For further particulars, apply to

CHARLES DARLING, 508 California Street.....San Francisco.

NAVEL ORANGE GROVES.

Owing to old age and inability to work. I would now sell a half interest in two or three Navel Orange Groves, near town, **at much less than their value and on very easy terms** to the right kind of a younger man, to work and manage them. An unequaled opportunity for an industrious man to secure a competence without risk. Address

GEN. J. H. FOUNTAIN, Riverside, Cal.

Miss Head's School for Girls, BERKELEY, CALIFORNIA.

Special Care for Health of Girls. Gymnasium and Outdoor Games, Cheerful Family Life.

Certificate admits to University of California and Vassar College.

School of Practical, Civil, Mechanical, Electrical and Mining Engineering,

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Open All Year. : A. VAN DER NAILLEN, Pres't.

Assaying of Ores, $25; Bullion and Chloriuation Assay, $25; Blowpipe Assay, $10. Full course of assaying, $50. Established 1864. Send for Circular.

LEE D. CRAIG, Notary Public and Commissioner of Deeds, 316 MONTGOMERY STREET, Bet. California and Pine, SAN FRANCISCO, CAL

KROGH Manufacturing Co.

Successors to The S. F. Tool Co.

Builders of all kinds of Pumping Machinery for Irrigation and Reclamation of Land.

Triple-Acting Pumps, Deep Well Pumps, Windmills, Tanks for Water and Wine, Link Belt Elevators and Conveyors, Link Chain and Sprocket Wheels, Wine Presses (hydraulic or screw), Grape Crushers and Stemmers, Pipe and Fittings.

OFFICES AND WORKS:

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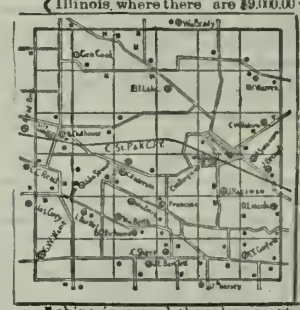
A RECORD

like that of our reliable **GOODHUE WIND MILLS** is something to be proud of. We give below a cut of Campton Township, Kane Co., Illinois, where there are $9,000.00 worth of our **POWER MILLS** in daily use. The large dots represent the Power mills the small dots mean **GOODHUE PUMPING MILLS** At first one man bought, and then his neighbors seeing the good qualities of the **GOODHUE** did likewise. The merits of the machine increased the sales so extensively. We make also 2 to 8-horse Sweep Powers. 2 and 3 horse Tread Powers, and the famous **SUCCESS** 1 horse Tread Power, used so largely for cream separators, pumping, etc. A full line of Grinding Mills, Ensilage and Fodder Cutters, Corn Shellers, Wood Saws, &c. If you write us today, will send our new 150-page catalogue **FREE.** APPLETON MFG. CO. 23 Fargo St. Batavia, Ills.



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TRADE INDURINE MARK

COLD WATER PAINT.

A substitute for Oil Paint and Whitewash. Fire-proof and Weather-proof. Whiter (unless tinted) than any oil paint can be. Cheap, durable, and easily applied by anyone. An Excellent Priming Coat for Oil Paint, and an Incomparable Wall Finish, killing water stains and working well over old kalsomine. Made in White and Colors. WM. BURD, Sole Agent for Pacific Coast, 23 Davis St., Room 11, San Francisco, Cal.

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For Sale by

A. O. RIX, Irvington, Alameda County, Cal

Blake, Moffitt & Towne, DEALERS IN PAPER, 512 to 516 Sacramento St., San Francisco, Cal. BLAKE, MOFFITT & TOWNE, Los Angeles. BLAKE, McFALL & CO.....Portland, Or.

WAGON AND PLATFORM **SCALES** HOOKER & CO. 16-18 DRUMM STREET, S. F.

BELT YOUR THRESHER WITH

OR

RUBBER BELTING.

A user in Hollister says: We bought a High Grade belt of you last season, 160 ft. long, 8 ins. wide, 4-ply, lacing it with Kerr's Wire Lacing, and it run on our machine without interruption during the season, without stretching or breaking, and apparently it is good for another season's run.

LEATHER BELTING; Genuine Dodge Wood Split Pulleys; Grant Corundum and Detroit Emery Wheels.

Simonds Saws. Simonds Genuine Babbitt. *Only the Best.*

SIMONDS SAW CO. 31 Main Street, San Francisco.

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OUR U. S. AND FOREIGN PATENT AGENCY presents many and important advantages as a Home Agency over all others, by reason of long establishment, great experience, thorough system, intimate acquaintance with the subjects of inventions in our own community, and our most extensive law and reference library, containing official American reports, with full copies of U. S. patents since 1872. All worthy inventions patented through Dewey & Co's Patent Agency will have the benefit of a description in the *Mining and Scientific Press.* We transact every branch of patent business, and obtain patents in all countries which grant protection to inventors. The large majority of U. S. and foreign patents issued to inventors on the Pacific Coast have been obtained through our agency. We can give the best and *most reliable* advice as to the patentability of new inventions. Our prices are as low as any first-class agencies in the Eastern States, while our advantages for Pacific Coast inventors are far superior.

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DEWEY & CO., Patent Agents, 220 Market St., San Francisco.

The AMERICAN Bee Journal — ESTABLISHED IN 1861 — OLDEST BEE-PAPER IN AMERICA — A Sample Free

The leading paper, and only weekly; 16 large pages. BE SURE to see it before subscribing for any other. G. W. YORK & Co., 56 Fifth Ave., CHICAGO, ILL.

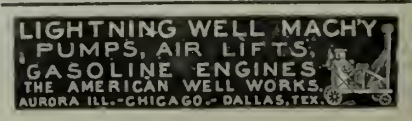
PUMPS!

Patent Centrifugal, Steam and Power Pumping Machinery. Simplest, Cheapest and Best. Orchard Trucks, Grape Crushers, Wine Presses, Wine Filters. Up-to-Date Repair Shop for All Kinds of Pumps and Other Machinery. It will pay you to get our prices. I. L. BURTON MACHINE WORKS, 115-117 First St., San Francisco.

PUMPS!

For deep or shallow wells; power, windmill, hand Pumps; valves can be removed without taking pump out of the well. With my 5-in. double-acting deep well Power Pump I guarantee 10,000 gallons per hour. Send for circular. A. T. AMES, Galt, Cal.

FIRE ARMS, FISHING TACKLE, BICYCLES, SPORTING GOODS, At Wholesale Prices. Send stamp for new Illustrated Catalogue. Home Supply Co., 13 Front St., San Francisco, Cal.



Patrons of Husbandry.

George Ohleyer's Ailment.

Hon. Geo. Ohleyer, who has been confined to his home in Sutter county for several days with a severe lame foot, with which he has been afflicted for many years, is in a very serious condition, though it is thought he is in no immediate danger of fatal results. Sunday morning surgeons amputated the great toe of Ohleyer's right foot, and it was found that the toe was in a diseased condition, and it is possible that a further operation may be necessary. For some years Mr. Ohleyer has been a sufferer from the effects of a white swelling, or a similar disease, in his right foot, and it is hoped the operation of Sunday will relieve him of further trouble.—Marysville Democrat.

This is the first intimation we have of Bro. Ohleyer's affliction, and we sincerely hope that it may prove much less severe than the above item would lead one to infer. Bro. Ohleyer is too useful a citizen to be thus restrained from effort. We trust the means taken may give him a new lease of life and comfort.

Tulare Grange Declares Itself on Good Roads.

Tulare Grange held its regular semi-monthly meeting last week. The special subject for consideration was good roads. On this subject the following address to the Bureau of Highways was adopted:

Tulare Grange, believing in the importance and necessity of better roads and better road laws, and having carefully considered the subject both in consultation with the members of your honorable body and in Grange session, as a result thereof herein asks to submit its views.

We desire to see the public roads in California equal to the best in the United States. We believe they can in reasonable time, with systematic, prudent management and with reasonable expenditure, be made such.

We believe, from conversations and consultations with members of your honorable bureau, we understand the lines upon which you propose the improvement of our public highways. They meet with our unqualified approval.

We understand that for the purpose of carrying out your system of good roads you will recommend legislation. In doing so there are some points of importance in the making and maintaining of good roads which, we believe, should be embodied in road legislation.

We believe the law should prescribe the mode of making, leveling, grading and packing highways, and the style and construction of culverts, drains and bridges. We believe this should be inserted in the law on the recommendation of trained road engineers, and we believe if these conditions are stipulated by your honorable bureau they will lead to the best results. No better can be had.

We believe from the nature of the soil and the light season's rainfall in Tulare county good roads can be made and maintained without the use of macadam. But, no matter of what material the roads are constructed, if we are to have good roads wider tires than those now in use are positively essential.

We believe for the better carrying out of this object a State law requiring the use of wide tires is essential. If the regulation of the width of tires is left to the county boards of supervisors they will differ as to the proper width of tire; there will be no uniformity; some will hesitate and be slow to act; some will never act; the best results will not be had. Therefore, in any legislation you may recommend we ask you to provide by State law for the use of wide tires on all vehicles, and no buggy shall have a tire of a width less than 2 inches. For large vehicles we would suggest the requirement of the road law of France, as stated by the members of your bureau at our meetings.

We believe with roads constructed on those lines and wagons with tires as suggested ere long we of California will have model roads and no additional burden will be put upon the taxpayer.

What Can Farmers Do?

"What can farmers do to remedy the evil or evils which exist?" This opens up a broad field for discussion and gives opportunity for a wide diversity of thought as to what farmers can or should do in the matter. One thing is certain—inaction on their part invites a continuation of the conditions which they now so much deplore, and which have brought such widespread disaster to agricultural interests in all parts of the country.

And another thing is equally certain—farmers should understand each other better than they now do in order to accomplish what they desire in regard to these momentous questions, and, while these questions may have been discussed by every Grange, yet individual Granges in different parts of the country have never known what the drift of these discussions have been in other Granges in sections remote from them, nor what general conclusions have been reached as a result of these discussions.—Homestead.

California Fruit Sales.

NEW YORK, August 5.—The Earl Fruit Company sold to-day: Pears—Bartlett, $1.50@1.75 ℘ box; Souvenir de Congress, $1.40 ℘ box. Plums—Satsuma, $1.10@1.25 ℘ half crate; Japan, $1.10@1.35 ℘ half crate; Kelsey, $1.30 ℘ half crate; Columbia, 90c ℘ half crate; Washington, $1.10 ℘ half crate.

CHICAGO, August 5.—The Earl Fruit Company sold: Prunes—Gros, $1.25@1.40 ℘ half crate; Robe de Sargent, 70c ℘ quarter crate; German, $1.25 ℘ half crate. Plums—Victoria, $1.10 ℘ half crate; Columbia, $1.05; Purple Duane, $1; Washington, 75@85c.

NEW YORK, August 6.—The Earl Fruit Company sold to-day: Prunes—Gros, $1.55 ℘ half crate; German, $1.20@1.30. Plums—Egg, $1.10@1.55 ℘ half crate; Purple Duane, $1.35; Satsuma, $1.20@1.25; Columbia, $1.10. Pears—Bartlett, $1.15@1.60 ℘ box; Souvenir de Congress, $1.15@1.35.

CHICAGO, August 6.—The Earl Fruit Company sold to-day: Pears—Bartlett, $1.20@1.35 ℘ box.

NEW YORK, August 7.—The Earl Fruit Company sold to-day: Pears—Bartlett, $1.35@1.55 ℘ box. Plums—Purple Duane, $1.15@1.35 ℘ half crate; Kelsey, 85c@$1.30; Satsuma, $1@1.15; Washington, $1.05@1.20; Egg, 85c@$1; Peaches—Tuscan, 90c@1 ℘ box; Foster, 40@70c; Crawford, 30@65c, some in poor condition; Grapes—Fontainebleau, $1.40 ℘ half crate; Tokay, $2 ℘ half crate.

CHICAGO, August 7.—The Earl Fruit Company sold: Pears—Bartlett, 80c@$1; Beurre Hardy, 80@95c; Plums—Yellow Egg, 90c ℘ half crate; Peaches—Early Crawford, 50c ℘ box.

NEW YORK, August 8.—The Earl Fruit Company sold Bartlett Pears to-day at $1.25@1.45 ℘ box.

NEW YORK, August 10.—The Earl Fruit Company sold to-day: Pears—Bartletts, $1.10@1.55 ℘ box; half boxes, 50@75c; Plums—Kelsey Japan, $1@3.10 ℘ half crate: Egg, 75c@1.30; Washington, 70c@1.05; Purple Duanes, 70c@$1.25: Bradshaw, $1.05@1.20; Columbia, 80c.; Prunes—Gros, $1@1.60 ℘ half crate: some in bad order sold for less; German, 75c@$1.35; Italian, $1.25; Grapes—Fontainebleau, $1.25.

CHICAGO, August 10.—The Earl Fruit Company sold to-day: Pears—Bartletts, $1.15@1.40; Beurre Hardy, 50@60c: Plums—Kelsey Japan, $1.30@1.35 ℘ half crate; Quackenbos, $1.30@1.35; Egg, 60c@$1; Peach, 90c@$1; Prunes—Gros, $1.05@1.40 ℘ half crate; Silver, 95c; Peaches—Reeves' Favorite, 75@80c ℘ box: Susquehanna, 65@80c; Tuscan, 70c; Foster, 75c; Crawford, 30@75c: Sellers' Cling, 40@75c; Grapes—Tokay, $2 ℘ half crate; Thompson's Seedless, $1.20@1.35; Fontainbleau, $1.10@1.35.

CHICAGO, August 11.—The Earl Fruit Company sold to-day: Pears—Bartlett, $1.20@1.55. Prunes—Gros, 80c@$1.15. Plums—Quackenbos, $1.30@1.40; Egg, $1.

NEW YORK, August 11.—The Earl Fruit Company sold: Pears—Bartlett, 70c@$1.15. Plums—Quackenbos, $1@1.20; Kelsey, 35c@$1.40; Satsuma, $1.10; Washington, 90c; Bradshaw, 35c@$1; McLaughlin, 50@80c; Columbia, 50@80c; Egg, 50c@$1.05. Prunes—Gros, 80c@$1.25; Bulgarian, 60c@$1; Italian, 70c@$1; German, 80c@$1.15. Peaches—Crawford, 50@85. Grapes—Fontainbleu, 60c.

An Active Demand.

The commission house of W. C. Price & Co., of San Francisco, report an active demand for dried peaches and apricots at top market prices. The firm makes a specialty of poultry, honey and eggs. Parties raising turkeys for the market will confer a favor by stating the number of turkeys they have on hand for sale, for which an offer will be made. *

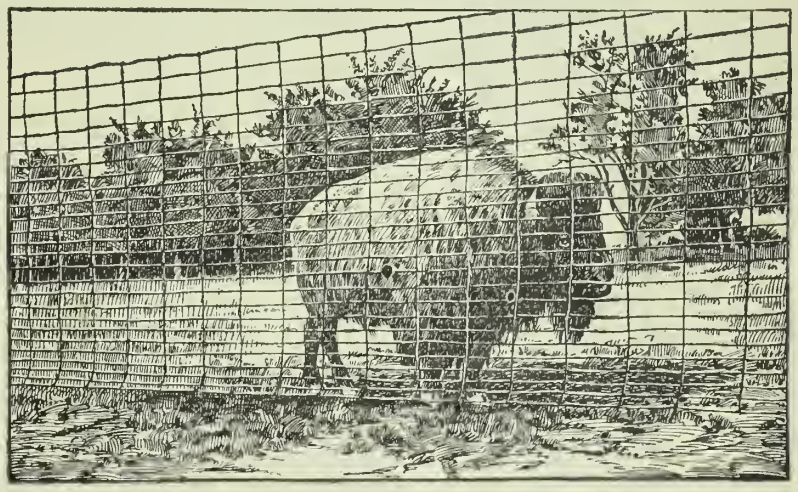
J. M. MOORE, who for several years was State business manager of the Farmers' Alliance and Industrial Union of California, issues a valuable price list for farmers. The highest market prices are obtained on consignments of dried fruit and grain. Forward samples to J. M. Moore, 221 First street, San Francisco. *

FOR SALE CHEAP.

A FEW PACIFIC PRUNE GRADERS and PERFORATORS.

D. D. WASS,
56 First Street.....San Francisco, Cal.

CANNING & PRESERVING.
I have published a small book: "The Art of Canning and Preserving at Home," full of reliable recipes, which I will mail to any one on receipt of 10 cents. MRS. S. M. HOVEY, Brentwood, Cal.



THE AMERICAN BUFFALO RESPECTS AN AMERICAN FENCE.

Woven Wire Fence for Large Game.

The late Austin Corbin, the New England multi-millionaire, at his villa, near Newport, N. H., had the most extensive private preserve for large game that probably exists, covering 25,000 acres in the Blue Mountain forest. On this magnificent range much of the Page Woven Wire Fence has been used. He had given much attention to preserving from extinction the American buffalo, and one of the stipulations submitted for enclosing his New Hampshire domain was that the fence should be proof against attempts to leap it, or break through, on the part of these powerful and agile animals.

Unlike barb wire and analagous devices, the Page product is a protection instead of a menace to animals within its enclosure. A short time ago he donated to the park commissioners of New York a number of bison from his Blue Mountain herd, with the condition that none but Page feucing be used to enclose them.

Stimulated by Mr. Corbin's example, the Page people have instituted a zoo of their own. A range of thirty-seven acres has been enclosed, and in this the company has placed a number of deer and elk, with nine bison. Having succeeded so well in corraling the brawny bison, the Page people are now preparing a fence to enclose the elephants in Lincoln Park, Chicago, and relieve the animals from the chains which keep them in subjection at the expense of their tempers and physical condition.

RUSHFORD FARM..... WAGONS..

A Great Sacrifice Sale to Reduce Stock.

WE OFFER THE FOLLOWING SIZES BELOW COST:

FARM GEARS.

	Cat. No.	Size Axle.	Style Axle.	Width Tire.	Capacity.
7	47	2⅛	Hollow Steel..	2 in.	2500 lbs.
5	47	2⅛	"	3 in.	2500 lbs.
5	48	2⅜	"	2½ in.	4000 lbs.
5	50	2⅞	"	4 in.	6500 lbs.
6	38	1¾	Concord Steel.	3 in.	4000 lbs.
1	40	2	"	2½ in.	6000 lbs.
1	40	2	"	3 in.	6000 lbs.
2	40	2	"	4 in.	6000 lbs.
8	18	3¼	Steel Skein...	2 in.	4000 lbs.
2	18	3¼	"	2½ in.	4000 lbs.
8	19	3½	"	2¼ in.	5000 lbs.
4	19	3½	"	3 in.	5000 lbs.

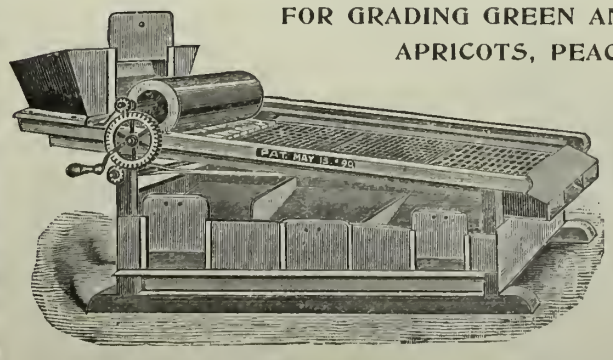
All these wagons are fresh stock, fully guaranteed, and prices can't be duplicated.

Write to us for green circular, and mention this paper.

HOOKER & CO.
16 and 18 Drumm St.,
SAN FRANCISCO, CAL.

GOPHERS==SQUIRRELS
and other destructive rodents
EXTERMINATED WITH
PASTEUR VIRUS
The rodents contract a contagious disease which rapidly exterminates them. The virus is harmless to man and domestic animals.
PRICE $1.00 PER BOTTLE.
PASTEUR VACCINE CO., Ltd.
(Sole Agents and Manufacturers, U. S. and CANADA.)
56 FIFTH AVENUE, CHICAGO.

Hamilton Fruit Grader.
PATENTED MAY 13, 1890.
FOR GRADING GREEN AND DRIED PRUNES, APRICOTS, PEACHES, ETC.



IT HAS BECOME .....THE..... STANDARD GRADER .....OF..... CALIFORNIA.
Send for Catalogue of Testimonials.

MANUFACTURER and PATENTEE, W. C. HAMILTON,
445 W. SANTA CLARA STREET.....SAN JOSE, CALIFORNIA.

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Aug. 12, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	118,977	742,898	373,570
Wheat, ctls	81,773	637,126	1,040,296
Barley, ctls	261,236	640,711	502,985
Oats, ctls	8,316	45,762	46,993
Corn, ctls	3,970	17,457	7,209
Rye, ctls	535	3,570	4,054
Beans, sks	4,816	23,471	14,771
Potatoes, sks	20,738	92,814	98,453
Onions, sks	3,661	17,813	15,891
Hay, tons	4,148	20,351	23,516
Wool, bales	952	6,731	8,729
Hops, bales	18	148	220

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	104,756	644,528	243,316
Wheat, ctls	60,097	587,773	1,416,112
Barley, ctls	94,688	533,903	306,770
Oats, ctls	277	4,765	3,393
Corn, ctls	33	2,344	3,168
Beans, sks	175	12,923	34,648
Hay, bales	125	3,462	4,541
Wool, lbs	....	1,260,711	2,268,000
Hops, lbs	898	72,085	34,998
Honey, cases	1	159	974
Potatoes, pkgs	735	4,466	9,871

Grain Freights and Charters.

Market for grain charters is not wholly stagnant, but more business could be transacted without exciting comment as to any special activity. Desirable iron ships for the wheat-carrying trade are being held tolerably firm, but no material change has been established in quotable rates. The supply of tonnage is likely to prove ample for the season's needs, but just at present there are not many ships pressing for engagement. Iron ships ready for immediate loading are difficult to obtain under £1 8s 9d per ton to Cork for orders, usual option.

Charters.

German ship H. F. Glade, 1718 tons, wheat to Cork, £1 6s 3d; if to Liverpool, 1s 3d less.

British steamer Cedar Branch, 1542 tons, wheat to St. Vincent for orders, £1 8s 9d—chartered prior to arrival.

British ship St. Mungo, 1852 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 8s 9d; direct port, £1 7s 6d.

British ship Ventura, 1581 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 8s; direct port, £1 6s 9d.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive.
1896	61,226	42,589	257,251
1895	26,414	6,316	376,126

Flour.

The export movement has been lately quite brisk, especially to China, shippers rushing large quantities through to take advantage of the very low freight rates which have been lately in force, but which are now a thing of the past. Stocks of flour continue liberal and the market is easy in tone, but quotable values remain unchanged.

Superfine, lower grades	$2 25@ —
Superfine, good to choice	2 40@2 50
Country grades, extras	2 85@3 15
Choice and extra choice	3 15@3 35
Fancy brands, jobbing	3 35@3 60
Oregon, Bakers' extra	2 75@3 00
Walla Walla, Bakers' extra	2 75@3 00

Wheat.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	5s 6d@5s 6½d.	5s 4½d@5s 5d.
Freight rates,	35@37½s.	26¼@28¾s.
Local market,	$0.92½@97½	$0.95@1.00.

The prices above are for spot lots of standard No. 1 California in Liverpool, and for good to choice shipping in this city.

The local wheat market has been dragging its weary length along in much the same monotonous fashion as for several months past. Prices are at such a low level, that there is not much probability of there being hammered materially lower, although the bear interest is still heavily represented and never misses an opportunity to thump values downward. Late news from Europe reports the crop in Great Britain to be turning out unusually fine, above the average both as to quality and quantity. With no advices of any pronounced failure in the wheat crop in any portion of the globe, the prospects are not brilliant for wheat values being established at what could be termed profitable and generally satisfactory figures to the entire producing interest. Of course there is a possibility of later developments shaping the market more in favor of producers, and it is certainly to be hoped that some turn for the better will be experienced. Option market was in the main slow, with fluctuations at a rather narrow range most of the week. On Wednesday there was a break in Chicago of about 1c per bushel. Market here closed weak and dull with options at lowest point since last review.

California Milling, old	$1 00@1 10
Cal. No. 1 shipping, alongside	95@ 97½
Oregon Valley	95@1 00
Walla Walla Blue Stem	1 00@1 10
Walla Walla Club	95@1 00

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, 97⅝@97⅞c.

May, 1897, delivery, $1.01⅜@1.00¼.

Wednesday, at regular noon session of Call Board, December wheat sold at 96¾@95⅞c; May, $1.00¼.

Barley.

There is considerable Brewing barley going aboard ship for Europe, but offerings since the beginning of the current season have proven steadily ahead of requirements, causing the market to be almost wholly in the control of buyers. Chevalier barley is still dragging, exporters seemingly having difficulty in effecting satisfactory arrangements abroad for the disposal of this variety this season. Feed descriptions are moving slowly and at generally easy rates, especially for seriously defective stock, with tolerably large quantities of the latter sort now offering. Call Board values remained at a low range, with trading rather light.

Feed, No. 1 to choice	65 @66¼
Feed, fair to good	60 @62½
Brewing, No. 1 to choice new	75 @80

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, 68⅝@67¼c; May, 1897, delivery, —@—c.

Wednesday at regular noon session of the Call Board, Dec. feed sold at 67¼c.

Oats.

This market has been quiet the current week, and while quotable values were not materially disturbed there was a generally easy tone, especially for other than most desirable qualities of old. New crop Oregon and Washington oats are now offering by sample, and are expected soon to be on market in wholesale quantity. New crop California oats are offering in larger amount than can be conveniently or advantageously placed.

White Oats, fancy feed	92½@— —
White, good to choice	85 @ 90
White, poor to fair	77½@ 82½
Gray, common to choice	77½@ 82½
Milling	85 @ 87½
Surprise, good to choice	97½@1 02½
New crop Cal. Oats	72½@ 82½

Corn.

Market for large white is slow and fully as unfavorable to sellers as previously noted. The local consumption of this variety is always light, and there have been lately no export orders of consequence. The yellow varieties are meeting with moderate custom at slightly lower figures. There are no heavy quantities of either large or small yellow in stock at present.

Large White, good to choice	75 @ 77½
Large Yellow	87½@ 92½
Small Yellow	92½@ 95

Rye.

The demand is very limited and market is lacking in strength, especially for new, the little inquiry existing being mainly for old.

Good to choice, old	72½@ 75
Good to choice, new	65 @ 70

Buckwheat.

Market is practically lifeless. Most of the local millers have all the stock they care to carry at present.

Good to choice	90 @ 92½

Beans.

Trade continues of a light order, both locally and for export, with decidedly liberal supplies in this center and at points of production. The occasional sales made are in the main within range of unchanged quotations, but full current figures represent little more than jobbing prices, and are obtainable only in a small way.

Pea, fair to good, 100 lbs	$1 20 @1 35
Small White, good to choice	1 00 @1 15
Lady Washington	75 @1 00
Butter, small	1 10 @1 25
Pinks	65 @ 80
Bayos, good to choice	90 @1 05
Reds	1 20 @1 30
Red Kidneys	1 25 @1 50
Limas, good to choice	2 00 @2 25
Black-eye Beans	1 50 @1 75

Dried Peas.

There are few in stock, few coming forward, and few wanted at the moment. Quotations are based on latest reported transactions.

Green Peas, California	$1 15 @1 30
Niles Peas	1 20 @——

Wool.

This market does not show a particle of life, and is in a generally discouraging and unprofitable state for all parties concerned. Most of the woolen factories of the country are lying idle, claiming to be unable to compete with the foreign manufacturer, even with wool obtainable below the cost of production. With no transactions, quotations are continued as before, but just now they represent little more than asking figures.

SPRING.

Humboldt and Mendocino	10 @12
Northern California free	— @—
Northern defective	5½@ 7
San Joaquin Foothill, good to choice	6 @ 7½
San Joaquin, 12 months	4 @ 6½
San Joaquin and Southern, 6 months	4 @ 6
Nevada, as to condition	7 @ 9
Oregon Valley, select	9 @10½
Oregon Valley, low grade	8 @ 9½

Hops.

Lilienthal & Co. furnish the following hop statistics of crop of 1895-96:

Section.	Acres.	Bales.
California	8,500	52,000
Oregon	16,500	99,500
Washington	5,700	28,800
British Columbia	300	700
Totals	31,000	181,000

Distribution of stock from June 30, 1895, to July 1, 1896:

CALIFORNIA.

	Bales.	Bales.
Stock on hand June 30, 1895	6,700	
Received from Oregon	300	
Crop of 1895	52,000	
		59,000
Shipped overland by rail	32,000	
Shipped to foreign ports by water	7,200	
Home consumption	5,500	
		44,700
On hand July 1, 1896		14,300

OREGON.

	Bales.	Bales.
Stock on hand June 30, 1895	1,500	
Crop of 1895	99,500	
		101,000
Shipped overland by rail	97,000	
Shipped to California by water	300	
Home consumption	700	
		98,000
On hand July 1, 1896		3,000

WASHINGTON.

	Bales.	Bales.
Stock on hand June 30, 1895	4,000	
Crop of 1895	28,800	
		32,800
Shipped overland by rail	26,000	
Shipped to foreign ports by water	300	
Home consumption	1,000	
		27,300
On hand July 1, 1896		5,500

BRITISH COLUMBIA.

	Bales.	Bales.
Crop of 1895	700	
Shipped eastward	500	
On hand July 1, 1896		200

RECAPITULATION.

	Bales.	Bales.
Total stock on hand June 30, 1895	12,200	
Total Pacific coast crop, 1895	181,000	
		193,200
Total rail shipments	155,500	
Total water shipments	7,500	
Total consumed by local brewers	7,200	
		170,200
Total stock on hand July 1, 1896		23,000

The following is a late review of the Eastern hop market by a New York authority: "The hop market is wholly devoid of new features of interest. Crop advices do not indicate any change in the position from previous reports. The yield in this State will undoubtedly be much lighter than last year, but with continued favorable maturing weather it is thought the quantity will not show quite so great a shortage as expected from earlier estimates, and there does not appear to be any special anxiety shown to make contracts. Nothing new in foreign or Pacific coast advices. The movement here in spot goods is small, but current receipts are so light that stocks show a gradual reduction. Prices show no change, but at best are little more than nominal. Purchasers would have to pay about top quoted figures; but to go out to look for an outlet it is uncertain what figures could be obtained."

There is no inquiry worthy the name. A few buyers are willing to take good to choice old if they can secure them at extremely low figures, wholly to their own suiting. New to arrive are not being sought after. Present indications are for another season of low prices for this product. New hops are expected on the market before the close of the month.

Fair to choice, 1895 crop	2 @4

Hay and Straw.

Arrivals of hay have been of more moderate proportions and more in keeping with the demand than for several weeks preceding, but there has been no scarcity of offerings of any description, and the market failed to develop any firmness. Straw meets with slow custom at low figures, many parties using cheap hay instead.

NEW HAY.

Wheat	7 50@ 9 50
Wheat and Oat	6 50@ 8 00
Oat	5 00@ 7 00
Barley	6 00@ 7 50
Clover	5 00@ 6 50
Stock Hay	4 00@ 5 00
Alfalfa, first cutting	4 00@ 5 00
Straw, ₩ bale	25@ 35

Millstuffs.

Most kinds are in ample supply. No changes of consequence have taken place in quotable values or the general tone.

Bran, ₩ ton	11 00@12 50
Middlings	14 50@16 50
Barley, Rolled	15 00@15 50
Cornmeal	19 50@20 00
Cracked Corn	20 50@21 00

Hides, Pelts and Tallow.

W. B. Sumner & Co., in their circular letter, state:

During the past month hides and leather have been very quiet, and the general tendency of the market is towards lower prices. Very little leather is being placed and all the tanneries, as a rule, are working in about half quantity. The market, therefore, is quiet at lower prices. Dry Flint hides have declined in the East from 1 to 1¼c per pound, and prices, therefore, are lower in this market. Dry Kips continue very dull at lower figures than dry hides. Wool and sheepskins are now quiet at lower prices than ever before known. Tallow is dull at lower figures. The best grades are selling in the East for 3@3¼c. The general outlook is towards a weak market for the balance of the year.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @ 7	— @ 6
Medium Steers, 48 to 56 lbs	-- @ 6	— @ 5
Light Steers, under 48 lbs	4½@ 5	— @ 4
Heavy Cow Hides, over 50 lbs.	5 @ —	4 @ 4½
Light Cow Hides, under 50 lbs.	4 @ 4½	— @ 4
Wet Salted Kip	— @ 5	— @ 4
Wet Salted Veal	5 @ 6	4½@ 5
Wet Salted Calf	6 @ 7	5½@ 6
Dry Hides, round lots, 9@10c	10 @10½	7 @ 7½
Dry Kip and Veal, 11 to 16 lbs	8 @ 9	— @ 7
Dry Calf, under 4 lbs	— @15	— @10
Pelts, long wool, per skin		50 @60
Pelts, medium, per skin		40 @50
Pelts, short wool, per skin		20 @35
Pelts, shearling, per skin		10 @15
Deer Skins, best summer		25 @27½
Deer Skins, good medium		15 @22½
Deer Skins, thin winter		7 @10
Elk Hides		8 @ 9
Tallow, good quality		2½@ 2¾
Tallow, No. 2		2 @ —
Goat Skins, perfect		20 @35
Goat Skins, damaged		10 @20
Kid Skins		5 @ —

Seeds.

Mustard seed of new crop is beginning to

DRIED PEACHES, APRICOTS, POULTRY,

WANTED.

Parties raising Turkeys for market will confer a favor by letting us know how many head they have on hand for sale.

W. C. PRICE & CO.,

Grain and General Produce Commission Merchants,

425 Front Street, San Francisco, Cal.

Liberal advances made on consignments. Correspondence solicited. Established 1876. Members Merchants' Exchange and Dried Fruit Exchange.

DEAL WITH US.

WE
Are the only exclusive wholesale dairy produce house on the Pacific coast.
Guarantee the producer better results.
Represent the producer's best interests.
Desire an opportunity to increase your revenue for products.

DAIRYMEN'S UNION OF CALIFORNIA,

No. 113 to 119 DAVIS STREET.....SAN FRANCISCO, CAL.

16 TO 1.

Commission Merchants' Hats.

The chances are 16 to 1 that you will be pleased if you go to GROOM & HAGAN for your Hats, at 942 MARKET STREET, under the Baldwin Hotel.

arrive, and is showing poorer quality than last season. For prime quality the market is firm at the quotations and bids fair to continue so. In other seeds there is nothing of consequence doing.

	Per ctl.
Mustard, Yellow	1 60@1 75
Mustard, Trieste Seed	2 75@3 00
Mustard, Wild Brown	1 75@2 00
Flax	1 50@1 60
	Per lb.
Canary	2½@2¾
Rape	2 @2¼
Hemp	3¼@3½
Alfalfa, Utah	—@ —

Bags and Bagging.

The season's business in grain bags is practically ended, and the market is rather weak in tone, with probabilities of so continuing during the greater part of the fall and winter, it being to the interest of dealers to discourage importations at this time of year by keeping prices here below the parity of values in Calcutta. Wool sacks are offering at unchanged rates.

Grain bags, 22x36, spot	4¼@ 4½
Wool sacks, 4 lb	.28 @—
Wool sacks, 3½ lb	.26 @—
Gunnies	.12 @—
Bean bags	4 @ 4¼
Fruit sacks, cotton	5½@ 7½

Honey.

Not much honey on market, either new or old. The crop on this coast is exceedingly light, and a large portion of it has already passed into second hands. Market is firm at the quotations, but business is confined wholly to small transfers on local account.

White Comb, 1-lb frames	11 @12½
Amber Comb	7½@10
Extracted, White Liquid	5 @ 5½
Extracted, Light Amber	4½@ 4¾
Amber Colored and Candied	3¾@ 4
Dark Tule	2¾@ 3

Beeswax.

Stocks are light. While demand is not active, desirable qualities can be readily placed at current rates.

Fair to choice, ℔ lb	22@25

Live Stock and Meats.

Hog market continues weak, being relatively higher here than at Eastern packing points. Beef and mutton are in ample supply. Following are wholesale rates:

Beef, 1st quality, dressed, net ℔ lb	4½@ 5
Beef, 2d quality	4 @ 4½
Beef, 3d quality	3½@—
Mutton—ewes, 4@4½c; wethers	4½@ 5
Hogs, hard grain fed, light fat	3⅞@ 3½
Hogs, large hard	3 @ 3¼
Hogs, soft aud feeders	2½@—
Hogs, country dressed	4⅜@ 4⅝
Veal, small, ℔ lb	5 @ 6
Lamb, spring, ℔ lb	5 @ 5½

Poultry.

This market was not quite so heavily stocked as during preceding week, but supplies of most sorts continued sufficiently heavy to prevent values improving to any marked degree. Only one carload of Eastern arrived since last review, but another carload is about due. The demand is still rather light, and is mainly for medium size to full grown young poultry in first-class condition. One serious drawback to the advantageous sale of the poultry arriving is that much of it is too poor to be desirable.

Turkeys, live hens, ℔ lb	12@ 13
Turkeys, live gobblers	13@ 14
Turkeys, large young	15@ 17
Hens, Cal., ℔ doz	4 00@4 50
Roosters, old	4 00@4 50
Roosters, young, (full-grown)	4 00@5 00
Fryers	3 00@3 50
Broilers, large	2 50@3 00
Broilers, small	2 00@2 50
Ducks, young, ℔ doz	3 00@4 00
Ducks, old	2 50@3 50
Geese, ℔ pair	1 00@1 25
Goslings, ℔ pair	1 25@1 50
Pigeons, ℔ doz	1 25@1 50

Butter.

There was in the main a little easier tone to the butter market than during previous week. Considerable trade has gone on to packed butter, while arrivals of fresh are tolerably large for this time of year, mainly creamery product from the northern coast counties. Some of the latter was not up to the usual standard of excellence and dragged at reduced figures. Choice to select dairy butter in rolls was in light stock and in good request.

Creamery extras, ℔ lb	19 @—
Creamery firsts	18 @—
Creamery seconds	16½@—
Dairy select	17 @—
Dairy seconds	14 @15
Dairy, soft and weedy	10 @11
Mixed store	10 @12
Creamery in tubs	15 @16
Pickled roll	15 @16
Dairy in tubs	14 @15
Firkin, Cal., choice to select	14 @15
Firkin, common to fair	11 @12½

Cheese.

Not much choice, mild new offering, and market for this description is firm at prevailing rates. Well seasoned stock, a little "sharp" in flavor, is in sufficient supply for immediate needs.

California fancy flat, new	9 @—
California, good to choice	7 @ 8
California, fair to good	6 @ 7
California, "Young Americas"	8 @ 9½

Eggs.

Market has not ruled quite so firm as immediately prior to last report. Prices for choice to select domestic product were advanced a little too rapidly, sending trade largely on to Eastern eggs, which were in increased receipt, including some of very fine quality, and were regarded by the retailer as much better value at the figures asked than were the best California at the higher prices demanded for the latter. Small, dirty, shaky or otherwise faulty eggs were hard to sell, many buyers refusing to handle them at any price.

California, select, large white and fresh	23 @—
California, select, irregular color & size	17 @22
California, good to choice store	13 @16
California, common to fair store	10 @12
Oregon, prime	14 @15
Eastern, as to section and grading	14 @16
Eastern, seconds	10 @12
Duck eggs	16 @17

Vegetables.

About the only noteworthy feature of this market was the demand for onions on orders from Australia. The very heavy offerings, however, have enabled shippers to fill their orders at about as low figures as have been current this season. Although prices remained low, the surplus was reduced to some extent, thus benefiting the producer. Corn in sacks sold at a little wider range than last quoted. Peppers were cheaper. Squash and cucumbers ruled a little steadier than for a fortnight or more preceding.

Asparagus, Fancy, ℔ box	— —@— —
Asparagus, common to good, ℔ box	— —@— —
Beans, String, ℔ sack	50@ 1 00
Beans, Wax, ℔ lb	1½@ 3
Beans, Garden, ℔ lb	2@ 3
Beans, Lima, ℔ lb	4@ 5
Cabbage, choice garden, ℔ 100	50@ 60
Cauliflower, ℔ doz	40@ 50
Corn, Alameda Sweet, ℔ crate	1 00@ 1 50
Corn, Berkeley, ℔ crate	50@ 1 00
Corn, Vacaville and Winters, ℔ crate	— —@— —
Corn, Green, ℔ sack	50@ 75
Cucumbers, Alameda, large box	10@ 25
Egg Plant, ℔ box	35@ 50
Garlic, ℔ lb	1@ 1½
Okra, Green, ℔ box	50@ 75
Onions, Red, ℔ cental	—@ —
Onions, Yellow, good to choice	35@ 40
Peas, Green, ℔ sack	50@ 1 00
Peppers, Green Chile, ℔ box	25@ 50
Pepper, Bell, ℔ large box	40@ 50
Rhubarb, ℔ box	35@ 50
Squash, Bay, ℔ large box	15@ 25
Tomatoes, River, per large box	40@ 60
Tomatoes, Vacaville, ℔ box	—@ —

Potatoes.

There was a rather weak tone to the potato market, with offerings moderately large and the demand not very active. Business was mainly on local account, shipping orders being confined to a few coast points. Sales of ordinary Burbanks and Early Rose were made at an average of about 5 cents per cental less than immediately prior to last issue. Prices for choice to select Burbanks were fairly well sustained. Sweets were more plentiful and lower.

IN SACKS.

Early Rose, River, ℔ cental	35@ 45
Peerless, River	40@ 50
Garnet Chile, Mission	50@ 65
Burbanks, River	35@ 45
Burbanks, Salinas	75@1 00
Sweet Potatoes	1 50@2 50

The Fruit Market.

Fresh Fruits.

Most kinds of late summer fruits were well represented on the market. It was the exception where any pronounced changes were experienced in values; but, taken as a whole, there was perhaps a slightly better tone than last noted. Canners were not heavy buyers, however, and confined their purchases mainly to one or two varieties. Bartlett pears of choice quality received more attention on packing account than any other description, although choice cling peaches were by no means neglected. Plums met this week with very little inquiry from the canning trade.

Apples were in large supply, and offerings included few of desirable quality, practically none which could be termed choice to select. There is no probability of the market being burdened this season with this class of stock. Market for desirable qualities presents a firm tone, but for defective there is little inquiry, and prices for the latter remain at a low range.

Pears continued to be offered at low prices, with Bartlett's in heavy receipt, but it was the exception where the size and quality was up to the standard of most of the former seasons. Market for pears other than Bartlett's was wholly devoid of activity or strength.

Peaches of the freestone varieties were in quite good supply as compared with the demand, but prices averaged fully as well as last noted. Choice to select clings were in slim receipt and salable to advantage.

Nectarines were in reduced supply and sold to better advantage, but inquiry was confined largely to the red variety.

Grapes made a little better showing, both as to quality and variety. Prices averaged better, owing to the improved quality of offerings.

Watermelons continued plentiful and cheap. Cantaloupes and nutmegs were offered quite freely and low figures ruled.

Strawberries were in sufficient supply to keep the market favorable to buyers. Other berries in season were not in large receipt, but demand for them was not brisk.

Apples, Gravenstein, fancy, 4-tier	75@ 90
Apples, Gravenstein, 50-lb box	60@ 75
Apples, Red Astrachan, 50-lb box	25@ 50
Apples, Green, ℔ 50-lb. box	30@ 60
Crabapples, ℔ box	25@ 50
Figs, Black, ℔ 2-tier 15-lb box	50@ 75
Figs, Black, ℔ 1-tier box	30@ 50
Figs, White, ℔ box	25@ 50
Nectarines, Red, ℔ box	50@ 65
Nectarines, White, ℔ box	25@ 40
Prunes, Tragedy and German, ℔ crate	40@ 50
Peaches, fancy wrapped, ℔ box	35@ 50
Peaches, good to choice, ℔ box	20@ 35
Peaches, Freestone, per ton	12 50@20 00
Peaches, Cling, per ton	20 00@30 00
Pears, Bartlett, ℔ ton	8 00@12 00
Pears, Bartlett, No. 1, per box	30@ 50
Pears, Bartlett, No. 2, per box	15@ 25
Pears, other kinds, ℔ box	15@ 30
Plums, choice, large, ℔ box	25@ 35
Plums, other kinds, lb box	15@ 25
Plums, Japanese, ℔ crate	25@ 35
Plums, per ton	10 00@15 00
Nutmeg melons, ℔ box	75@ 1 00
Watermelons, per 100	5 00@10 00
Cantaloupes, per crate	60@ 1 25

Berries.

Blackberries, ℔ chest	2 50@ 3 50
Currants, Red, ℔ chest	— —@— —
Raspberries, ℔ chest	3 50@ 5 00
Strawberries, Longworth, ℔ chest	3 00@ 4 00
Strawberries, Large, ℔ chest	2 00@ 3 00

Grapes.

Fontainebleau, Cal., per crate	40@ 60
Fontainebleau, Cal., per box	25@ 40
Muscat, per box	50@ 75
Rose of Peru, ℔ crate	60@ 75

Dried Fruit.

Eastern advices by mail report the New York dried fruit market as follows:

The market has shown no material change this week. Evaporated apples have a moderate but steady jobbing demand, but holders are such free sellers that tone is weak and prices strongly favor buyers. Fancy job at 6@6¼c, choice, 5¼@5½c and prime 4⅜@5c, but outside figures are extreme. Sun-dried apples of all grades in very limited demand and weak. Cores and skins receive little attention. Comparatively little has been done in new fruit for future delivery this week. Makers are inclined to sell as much of their stock as possible in view of the good crop outlook this year, and are accepting low figures. Prime are freely offered at 4¾c for October or November delivery, and some very choice have been placed at 5c. Some contracts recently made have been resold, first buyers losing faith in the future market, while speculators have, in instances, sold fruit below prices makers are not willing to accept. A good many new chops have been sold so far this season, with 1¾c now quoted for late delivery, and cores and skins are offered at 1½c. Peaches very quiet and nominal. Raspberries weaker; prime old held at 15c, but new offering, both spot and to arrive, at 14c. A few new huckleberries have appeared and sold at 8c; old have advanced to 7@7½c and rule firm. Blackberries dull and nominal. Cherries in light supply and held firmly for both old and new, but demand very limited. California fruit has a fair jobbing demand at steady prices. New apricots plenty and selling from 7¼@9c for Royals; some poor old range down to 6@7c.

The local market has in the main a gloomy hue. Some dealers claim that trade is wholly stagnant, and none have anything of an encouraging character to report. The tight condition of the money market here and in the East is held largely responsible for the existing dull and depressed condition. Apricots are showing less strength than a week or two ago, especially ordinary qualities. Fairly good evaporated were offered in carload quantity this week at 6c. f. o. b., without finding takers. Fancy Royals and choice to select Moorparks are not offering freely and are not obtainable at what could be termed easy figures, still there is very little doing in them. Peaches of good average quality have been offered at 5c. f. o. b., and it would be difficult to purchase extensively at a materially lower figure. Apples are being contracted for in a moderate way at 5c. f. o. b. for evaporated in 50-lb. boxes. Choice quartered pears are quoted at 5c., while to secure halves of select quality about a cent more would have to be paid. Prunes have been selling at reduced figures, some of the latest transactions having been made down to 3⅛c. for the four sizes in 50-lb. boxes. Quotations given below cover as nearly as possible prevailing values for new crop fruit.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	6 @ 6½
Apricots, Royal, fancy	6¾@ —
Apricots, Moorpark	7½@ 9
Apples, in boxes	4½@ 5
Nectarines, White	— @ 4½
Nectarines, Red	— @ 4
Peaches, unpeeled	3½@ 5
Peaches, peeled	9 @11
Pears, peeled and sliced	4 @ 6
Pears, choice to select halves	5½@ 6
Pears, quartered	4 @ 5
Plums, pitted	3 @ 4
Prunes, in sacks, 4 sizes	2¾@ 3
Prunes, in sacks, small sizes	1½@ 2

COMMON SUN-DRIED.

Apricots, ordinary	— @ —
Apples, sliced	2 @ 2½
Apples, quartered	2 @ 2½
Figs, Black	1½@ 3
Peaches, unpeeled	2½@ 3
Pears, quartered, 2½@3c; sliced	3 @ 3½
Plums, unpitted	1 @ 1½

Raisins.

The little business transpiring in this line is at much the same figures as have been current for several weeks past. There are no contracts reported for other than first half of October shipments, and quotations given below are based on current values for early deliveries of new crop.

FIRST HALF OCTOBER SHIPMENTS.

Fancy Clusters, per box	1 40@ 1 50
Boxes, London layers, 20-lb box	1 10@ 1 20
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ℔ lb	4 @4¼
Loose Muscatel, 3-crown	3¼@ —
Loose Muscatel, 2-crown	2¾@ —
Sultanas	4 @ —
Seedless Muscatel	2½@ —

Citrus Fruit.

Lemons are in fair supply and are selling at generally unchanged rates, with the market moderately firm for best qualities, but slow and weak for defective stock. Limes offering are mainly Mexican product, with stocks of the same fully equal to the existing demand.

Oranges—Wash. Navels, ℔ box	— —@— —
Cal. Mediterranean Sweet	— —@— —
Cal. Seedlings	— —@— —
Lemons—Cal., select, ℔ box	3 50@— —
Cal., good to choice	2 50@ 3 00
Cal., common to good	1 50@ 2 50
Limes—Mexican, ℔ box	5 00@ 7 00
Cal., small box	1 00@ 1 25

Nuts.

Business in new-crop almonds or walnuts has not yet opened to any noteworthy extent. Stocks of old are of insignificant proportions, and, with no trading, values are little more than nominal.

California Almonds, paper shell	7 @ 8
California Almonds, soft shell	4 @ 6
California Almonds, standard	3 @ 3½
California Almonds, hard shell	2 @ 2½
Walnuts White, paper shell	11 @12
Walnuts White, soft shell	9 @10
Walnuts White, Cal., hard shell	7 @ 7½
Peanuts, Cal., fair to prime	5½@ 6
Peanuts, Eastern hand-picked	5½@ 6½
Pine Nuts	12 @14

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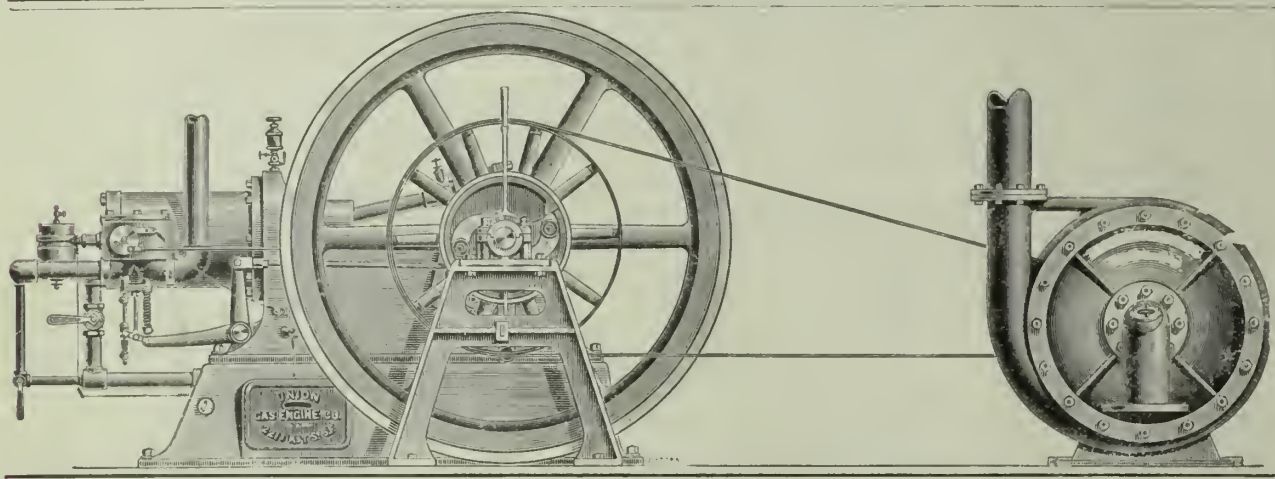

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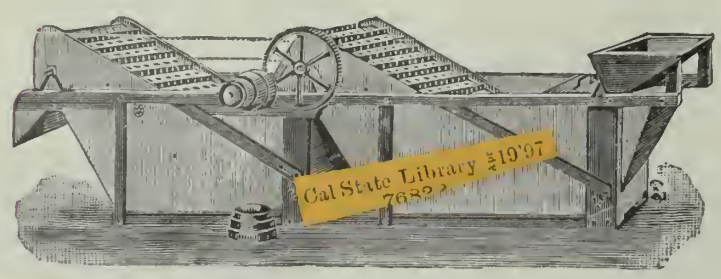

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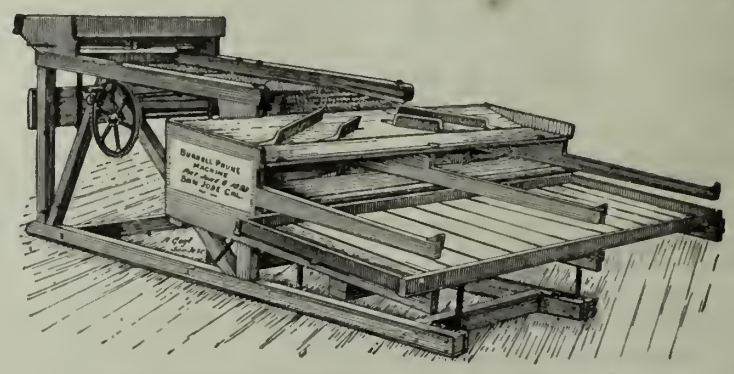

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THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LII. No. 8. SAN FRANCISCO, SATURDAY, AUGUST 22, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.

Eucalypts in California.

The eucalyptus family came to California with a somewhat confused botanical record. Whether it is not in good form to inquire too closely into the ancestry of trees, as it has been said to be with people in some parts of that continent, we cannot say, but it seems to have been necessary to give some of the trees good honest names after they came to California. Prof. A. J. McClatchie of Pasadena, who was a colaborer with Mr. Abbot Kinney in the monograph on "Eucalyptus," to which which we have often alluded, has had to do a lot of work to get down to what satisfied him as a sound botanical basis on which to operate. Incidentally he has found much of the confusion to which we allude, and he has shelved a lot of them as synonyms. He has also found several forms which fitted no Australian descriptions, and to these it has been necessary to give new names, and these naturally have a California savor. For example, there is a *Eucalyptus McClatchie*, so named by Mr. Kinney in honor of his associate in the work, and there is another named for the new home of the species, *Eucalyptus Californica*. From what we read of the various forms cropping out here and there through the book, we infer that there may be many other unnamed species found as further study is made.

The pictures which we use on this page show the leaf and bloom of the new species *Californica* and the old species *Occidentalis*, with which it has been hitherto wrongly associated. Mr. Kinney says that the Western Australia species *Occidentalis* has a bell-shaped calyx tube, with sharply protruding valves and foliage very similar to *Cornuta*. It has creamy-white flowers. There are very few of this species in California—some old ones at Ellwood, some at the Santa Monica Forestry Station and at Santa Monica Heights. The timber is valuable and the tree resists drouth well. The foliage is quite thick and bunchy.

EUCALYPTUS OCCIDENTALIS.

The new species *Californica* is more ornamental. This character is apparent in its leaf-form and habit, as shown in the engraving, but when we add to that the description of the blossom by Mr. Kinney, "a brilliant, warm red, which, against the dark green leaves and with the creamy-white stem, produce a charming effect," one can perhaps imagine this effect by adding the elements of color to the picture we give of the species. Mr. Kinney also states that there is a variety of the species *Californica* which has a yellow, instead of a red, flower, and that is one of only two species which seem to enjoy the heat and drouth of Arizona. If there should prove to be ground enough to give this yellow-flowered sort a specific standing, we would suggest the term *Arizonica*, for it is nearly related to California, and as it has a notable taste for a warm, dry habit, it should be given a patronymic expressing that fact.

EUCALYPTUS CALIFORNICA.

Of the tree *Eucalyptus Californica* Mr. Kinney says: "It is a very attractive tree. The specimens planted by me at Santa Monica Heights are among the thriftiest and handsomest trees there. The bark is mottled white in effect from the small scaling-off of the old, outer brown layer. The branches are very brittle. The red-flowered variety is worthy of attention as an ornamental, clean, and moderate-sized tree. It is a perennial bloomer."

Los Nietos valley will ship this year some $300,000 worth of walnuts, it being the heaviest crop for years. There will also be a large orange crop.

California Farms not Heavily Mortgaged.

It is grateful to be assured in these hard times that after all things might be much worse. The president of one of our San Francisco savings banks takes occasion to refute the frequently uttered claim that the farming lands of the State are generally weighted down with mortgages beyond hope of extrication. Figures taken from the last report of the State Board of Equalization give an insight into the true state of things in this regard. Take seven representative counties, giving the assessed value, the amount of all mortgages thereon, and the percentage of the mortgages to assessed value:

Counties.	Assess'd Value.	Amount of Mortgages.	Per Cent of Mortgage.
Fresno	$26,570,391	$7,297,885	27 46-100
Merced	11,965,747	2,870,827	24
Stanislaus	13,317,011	3,792,760	28 48-100
Tulare	13,136,194	3,851,269	29 39-100
Colusa	11,685,765	2,567,640	21 97-100
Solano	15,827,235	4,440,215	25 86-100
San Luis Obispo	11,221,482	3,423,655	30 50-100

The realty of the State of California is assessed as follows: Land, $715,383,880; improvements, $244,814,073, or a total of $960,197,953. The mortgages thereon amount to a total of $218,714,706.

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Registered at S. F. Postoffice as second-class mail matter.

ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, August 22, 1896.

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The Week.

Weather and Crops.

We are beginning to get weather manifestations which announce the approach of autumn. The oldest inhabitant has already recorded his prophecy of early rains. There have been thunder showers here and there, usually of rather light weight, however, but indicative of meteorological activity. It is getting well along in the season, it is true. The grain is mostly in the sack, but the sacks are in the field or beside the river landings. It will not be wise to trust too much to dry skies—they often get very wet about this time of the year. Of course, much rain is not now expected, nor is at all desired, but it is just as well to get a cover over things, for the unexpected sometimes happens even in California.

The following data for the week ending 5 A. M. Wednesday, Aug. 19, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	....	....	.11	.19	68	50
Red Bluff	T	T	.16	.02	98	62
Sacramento	T	T	.04	T	*	54
San Francisco	.03	.07	.01	.02	72	53
Fresno	T	T	T	T	102	62
San Luis Obispo	T	.04	T	*	86	52
Los Angeles	.01	.01	T	.06	86	58
San Diego	.04	.04	....	.06	78	64
Yuma	.04	.36	.01	.41	112	71

* Indicates no record.

At the State Fair.

Preparations for the State Fair are being actively pushed and everything will be ready by the opening on September 1st. Horses from a distance are already coming in. Energetic canvass is being made in southern California for exhibits for horticultural classes, and the upper part of the State should take heed. The special dairy displays are also being worked up well. The State University has designated Mr. William Winterhalter to take charge of the milk testing of cows competing for the dairy prizes, and he is well qualified for the work.

Farmers' Institutes.

Mr. Edward F. Adams has been appointed organizer for the series of Farmers' Institutes provided for by the Regents of the State University, in accordance with the special report of Regents Reinstein, Black and Rodgers, of which an account was given in the RURAL in May last. Fuller information of meetings held under this arrangement will be given in due time. South of Tehachapi Prof. A. J. Cook is carrying on the work as before. Prof. Wickson will go south next week to participate in meetings at El Cajon, San Diego Co., Aug. 24th and 25th; Fallbrook, San Diego Co., Aug. 26th and 27th; Fullerton, Orange Co., Aug. 28th and 29th. The following week Prof. Hilgard and Mr. Shinn will take part at Pomona, Los Angeles Co., Aug. 31st and Sept. 1st; Alhambra, Los Angeles Co., Sept. 2nd and 3rd; Santa Monica, Los Angeles Co., Sept. 4th and 5th. Great effort will be made to make these meetings exceptionally valuable and interesting. As usual, there will be five sessions at each Institute, commencing with an afternoon meeting of the first day and ending in the evening of the second day.

A Tuberculous Duck.

It is not new that poultry can become tuberculous from the same bacterium which occasions consumption in man and other animals. This matter is pretty generally known, and yet it is not the less interesting to state that Dr. Nief, the acting veterinary surgeon of the Health Department, on Tuesday took to the Health Office portions of the liver and other parts of a duck he had killed. They showed unmistakably that the fowl was afflicted with tuberculosis. The duck was presented to Dr. Nief by a friend and had been fattened until in good condition for the table. In cleaning the fowl it was noticed that some of the parts did not look natural, and they were submitted to Dr. Nief for his inspection. He at once knew it was a case of tuberculosis, and as the disease is seldom found in fowls he sealed up the affected parts so that they might be examined by members of the Board of Health. This case will probably cause the Health authorities to make some investigation to ascertain whether consumption is prevalent to any extent among domestic fowls.

The Carbonic Acid Process Does Not Work.

We had all there was to be said about the carbonic acid gas process at the time of its first declaration in this State and our readers are therefore informed about it. Last year it did not preserve the fruit entrusted to it for Eastern shipment and this year it did no better. The car went East from San Jose with peaches, plums and pears. It was loaded on July 31st, under the personal supervision of August Bowser of Fort Wayne, Ind., who is one of the originators of the idea. After the car had been packed it was divided into two sections, each hermetically sealed, and reservoirs of carbonic acid gas placed in connection with a pipe for transmission to all parts of the car. The temperature of the interior was kept at about 73°. The car started from San Jose August 1st, and after being seven days en route arrived in Chicago. When opened it was found that the peaches and plums were completely spoiled, being baked into a soft mass. They had been loaded when dead ripe. The pears, always good shippers, stood the trip much better and were as sound as nuts.

The Vineyard Revival.

The wine growers of Sonoma county, says the *Farmer*, will fare the best of any class of producers this year. The price of 1895 wine has advanced to 27 cents per gallon in carload lots, and in view of the fact that the demand for California wine for consumption has reached 16,000,000 gallons through strong co-operative and sound business measures, it is but reasonable to expect that the present falling off in the supply will cause prices for the vintage of 1896 to reach a still higher price. The annual meeting of the California Wine Makers' Association was held in this city last week. Nearly 31,000 shares were represented. The following officers were elected to serve for the ensuing year: Percy T. Morgan, president and general manager; Albert Sachman, vice-president; Henry Van Bergen, secretary and treasurer. The board of directors, in addition to the officers named, will be Charles Capry, A. L. Tubbs, Henry Kohler and J. Frowenfeld. Henry Sachman was appointed general superintendent, Hans Kohler superintendent of wine making, E. Frowenfeld chairman of the New York board and Carl Van Bergen assistant treasurer, with headquarters in New York.

Indicating the improved feeling in the country, the St. Helena *Star* says that a drive through the valley will reveal to the uninitiated a state of affairs little dreamed of. It will show that a large acreage of new vineyard has been planted and is in various stages of advancement. Nearly all, if not quite all, is in resistant stock, and, with but slight exception, all look healthy and vigorous. Under the stimulus of better prices, it goes without saying that the coming season will witness renewed activity in vine planting, for there is no branch of agriculture or horticulture that offers half the promise of profit today as the vineyard business.

THE notice of the State Board of Trade has been called to the fact that newspapers throughout the Southern States, in advertising the advantages of their localities, say all the facilities of California are offered and at much less expense. Director Filcher has sent communications to various papers of this State, requesting them to prepare articles on the resources of their respective counties. When this is done they will be compiled and sent throughout the East, in order to refute the statements regarding the high price of land.

Gleanings.

IT is now settled that Major Henry E. Alvord, chief of the dairy division of the U. S. Department of Agriculture, will deliver an address at the State Fair, Salem, Or., on Dairy Day, October 12th.

MR. CANTY has been around the Grangeville part of the country buying green fruit to ship to San Francisco to a cannery. He pays from $10 to $12 a ton and furnishes boxes. He has bought several orchards and says the peaches are as fine as any in the State.

THE Pacific Mail steamship Belgic reached San Francisco on Friday from China and Japan. In the cargo were 455 cases of opium, which pays duty to the amount of $150,000. The stuff is being shipped to this country in large quantities for fear the tariff will be raised upon it.

THERE are a few peaches coming to Portland from eastern Oregon, but it seems to require about a carload a day from California to supply the demand. It is said that very little California fruit now comes to Portland on consignment. The bulk of it is bought outright by the dealers.

CHARLES HOBLER is shearing his sheep by the help of his boys. The price of wool is so low that it doesn't pay to hire men to shear sheep, says the Hanford *Sentinel*. Mr. Hobler has some of the best bred sheep in the country, but free trade has killed the sheep industry so dead that it is a dubious dose for men who own them.

THE cannery and machinery of the Anderson Canning and Fruit Packing Company and a dwelling belonging to Dan Gover and T. J. Ryan were burned last week. The principal owner was S. E. Burbank. Large quantities of tin, $700 worth of dried fruit and 300 sacks of wheat were stored in the place, and all was lost, with no insurance.

GEORGE W. FRAZIER, who was a member of the second party of white men to cross the Sierras, died at Sebastopol last week. His age was 88. He came from Missouri sixty-six years ago, accompanying the famous Joe Walker in his hunting and trapping expedition. At one time he was banished to San Blas by the Mexican Government.

THE Los Angeles Olive Growers' Association proposes to build at once a pickling works and oil mill. According to Judge R. M. Widney, they have 2000 acres of land in the San Fernando valley which they propose devoting entirely to the culture of olives. They already have planted about 1250 acres in these trees and they seem to be doing unusually well.

A SANTA BARBARA dispatch says the Lemon Exchange is just now getting fancy prices. There are now several carloads of choice fruit in the curing-house, and more are constantly coming in. Manager Little is only shipping in carload lots, and will send out another carload Saturday. He employs a number of hands constantly at the packing-house, and pickers are at work every day all over the valley.

MORE sheep and cattle were quartered in the pastures around Ukiah last week awaiting shipment to San Francisco than have seldom been seen at one time in the history of the place. They all came from upper Mendocino and southern Humboldt and were purchased in Ukiah by the Western Meat Company of San Francisco, to whom they are being shipped as fast as the railroad finds it possible to transport them.

DELIVERY of sugar beets at the Chino factory for the seven days to Aug 15, was 3927 tons, making the total for the season 7092 tons. Inside the factory slicing has averaged 711 tons a day, which is a fair average. The total sliced up to last night was 8898 tons. In the sugar department, sugar is being turned out at the rate of about 2000 sacks—200,000 pounds, or 100 tons—per day. Up to Aug. 15th the output for the season has been 1000 tons.

THE cattlemen are again wrathful with the "self-supporting" Papago Indians of the plains of southern Arizona. The self-support has consisted mostly of helping themselves to cattle of any brand that came along, provided they were in prime condition. At one time this means of livelihood meant a loss of 1000 head a year, the Indians further "supporting" themselves by selling the beef in mining camps. It is an exasperating state of affairs.

THE Hanford *Sentinel* says that in that part of the country, where irrigation is carried on so extensively, the use of large, thirty-six-horse harvesters is impractical, and small wheat growers are at a disadvantage in grain harvesting. A new harvester is being made to supply the want of the small grower. It will be as complete as the big machine now in use, but will be light, with a capacity of about ten acres per day, and eight or ten horses can handle it.

THESE are busy times along the rivers. The Willows *Journal* on one day last week counted thirty-two six and eight mule teams with two and three wagons each, all headed for the river and carrying from six to eight tons to a team. The river banks are fast filling up with sacks of grain which extend from a quarter of a mile above Butte City to one mile below. Besides the saving of freight shippers by water gain in weight, and it has long been a wonder that the river has not been more liberally patrouized by grain growers.

AT their cannery at Santa Rosa, Hunt Brothers have introduced what the *Democrat* calls "an immense cooking arrangement." It is operated by an endless belt or double chain, on which cans are conveyed through the water, heated to a proper degree. The chain moves at a certain speed and the cans are retained long enough in the hot water transit to cook them to a turn. When running to its full capacity the cooking apparatus will handle 2000 cans a day. It is claimed that this process is much cheaper than any process in vogue.

THERE are some drawbacks to Canadian farming. In Frazer valley there first came ruinous floods, which were followed by a scorching drought which burned up the vegetation not ruined by water. The drought was followed or accompanied by forest fires, burning up many homes and forcing ranchers to abandon their settlements. The farmers are now facing another difficulty. Mosquitoes have been driven to the river by the forest fires and are hovering over the fields not burned or swamped, in some localities so thickly that men cannot be hired at $5 a day to harvest. In some localities in the Chilliwack district the farmers have been actually driven from their homes by the aggressive attack of myriads of mosquitoes.

THE Southern California Fruit Exchange will be reorganized on the second Wednesday in October, and steps are now being taken leading thereto. The Exchange is the central body for all the different county exchanges of southern California. In the plan under which it will work the coming season no person connected in any way with transportation lines will have anything to do with the Exchange. In this a source of complaint of last season will be done away with. An extension of the co-operative plan will be also effected by which it is hoped to shut out all dealers and commission merchants. In line with this idea is the admission of Santa Barbara to the exchange system. This leaves no orange section of importance where the growers will not control the marketing.

ACCORDING to the assessment returns to be published by the State Board of Equalization there are 29,658,432 fruit trees in California, and as Yolo county has given no figures on its young fruit trees the total may be placed, in round numbers, at 30,000,000. That is one tree for every two persons in the United States. There are 15,170,563 trees in bearing. The young trees, which will bear fruit in a year or two, as no

nursery stock has been counted, number 14,487,869. This is a showing that will surprise even the most enthusiastic grower in the State.

While threshing on the Parish ranch, near Yolo, the cylinder of Geo. Gould's separator went to pieces and cylinder teeth and small bits of iron and wood filled the air for a few moments, but fortunately no one was injured. The machine was running in full blast when the accident occurred, and such was the velocity with which the fragments were hurled that the platform on which the machine oiler usually stood, just above the cylinder, was literally torn to pieces. As it happened, the oiler was not on the separator at the time.

The surplus fruit which has to be thrown in the bay recalls the subject of a free public market. "The absence of a free public market," said W. H. Mills, "obstructs the consumption of produce by high prices, which never reach the grower. There certainly would be less of a glut if you had a free market. This dumping of fruit into the bay has a demoralizing effect upon the farmer. I believe that it would not be possible if San Francisco had a market where fruits and other country products could be bought from the producers by the consumers."

Fresno farmers are not waiting for the wagon, but for the Valley Railroad. It is said that a large part of the wheat crop raised north of that city will go to market over the Valley Road. One farmer, Clovis Cole, has contracted to ship 110,000 sacks by the new road this season, and is now piling his grain beside the road between Fresno and the San Joaquin river and north of the river. Many other farmers are doing the same, and the road will have a large business in carrying grain this fall. The Southern Pacific is facing this new factor and is cutting valley rates to pieces, in some cases throwing away half.

This year's experience makes stronger the opinion that Oregon's hope of success in producing cherries for shipment to the East lies in the production of our large new varieties. The *Rural Northwest* says in the sale of a carload of Oregon cherries at New York, on July 23d, Bings went at $2.70 per box and Oregons at $1.10 to $2.20, while the highest price obtained for Black Republicans was $1.45 and for Royal Annes $1.20. On July 27th another carload of Oregon cherries was sold in New York and on that date the Bings sold at from $1.25 to $1.45 per box; Oregons at 90c to $1.05; Black Republicans, 55c to $1.25; and Royal Annes, 20c to 95c. The last car was shipped rather too late in the season for Bings and Oregons, and altogether too late for Royal Annes. At the time Oregon cherries go East their markets are pretty well supplied with fruit of home production.

Commissioner J. F. McIntyre holds that the *rhizobius* is a success near the coast in Ventura county. In his last report to the Supervisors he said: "I have made an examination this month of orchards where the black ladybirds were placed from Sespe to Ventura, and find that the ladybirds are a success near the coast. They clean the black scale from olive and citrus trees, and are cleaning the hemispherical scale from the pepper trees in Ventura, but as far back from the coast as Barsdale, Sespe and Nordhoff they do not seem to increase. A few specimens can be found in each place, but they are not increasing fast enough to keep down the scale. My own orange trees on the Sespe have been cleaned by the twice-stabbed ladybird, and I believe that this parasite, if properly distributed, will hold the scale in check so that orange and lemon growers at Sespe, Barsdale and Nordhoff will not be obliged to spray their trees."

To show that a bank knows how to run a farm the following is taken from the report of one of the San Francisco savings banks: The Marguerite Rancho contains about 20,000 acres of land, and is situated in Madera and Merced counties, near Minturn. This bank loaned on this property $120,000, behind which was a trust deed of $60,000, and a further indebtedness of $15,000. As these creditors were not able to take up our loan we were obliged, for non-payment of interest, to foreclose our mortgage, and bought the property in at commissioner's sale. We got final title in January last, and leased the land in subdivisions to ten tenants for a proportion of the crops. Our superintendent assures us that our proportion of the crops this season will be about 20,000 sacks of grain, representing about $20,000, or a return of 14% per annum on a present debt of $140,000, as against $6000 formerly paid for interest, or 5% per annum net on the loan.

Hop Notes.

Sonoma County.—The Santa Rosa *Democrat* says that hop growers who have not contracts are in a bad way. There is no change for the better in market conditions, and it is safe to say the new crop will command no better prices than last year. Most of the yards near this city have been grubbed out, and in former years on land where the brewing blossoms ripened, corn and pumpkins are growing. Several of the largest yards in the Russian river valley are being worked, for the owners have contracts at fair prices running for a period of years to come.

Bear River Hop Yards.—The hop-picking season will soon commence in Wheatland. From present indications the growers will have no trouble in securing enough pickers, says the *Four Corners*. The reduction in prices, made necessary by the almost worthless condition of hops, it was feared would affect the help supply. The pickers readily realize the condition of the hop men, and are satisfied with the prices to be paid, viz., 70, 75 and 85 cents. Old pickers readily assert that they can make more money hop picking at these rates than can be earned at the employment offered by fruit men and canneries. Representatives of the Digger Indians have arranged for their families and brothers and it is expected that a body of Piutes will arrive from Nevada.

A correspondent writing to the *Record-Union* from Wheatland says: "Hop picking commences at Wheatland on August 20. The Bear river crop is promising for both quality and yield. The total crop this season will, however, be nearly 150 tons short, owing to a decreased acreage. The expected yield will be 900 tons.

Oregon Growers' Prices.—The hop growers of Oregon, says the *Rural Northwest*, have fixed upon 25 cents per box as the price to be paid for picking hops this year. This is a very low price, but it is all that the growers can afford to pay. It is probable that there will be as many pickers as are needed, as it is not expected that half as many hops will be picked this year as last.

Weather and Crops.

The following synopsis of the weather and crop conditions during the week ending Monday, August 17th, is issued by the State Agricultural Society in co-operation with the U. S. Climate and Crop Service, James A. Barwick, section director:

As compared with the normal temperature there were heat deficiencies shown, as follows: Fresno and Los Angeles 1°, Red Bluff and Sacramento 2°; San Francisco and San Diego were normal, while Eureka shows an excess of heat over normal of 4°.

The climatic conditions during the week have been of the very best. Grain threshing and harvesting are about completed. Hop picking has begun, but some yards will not be touched on account of the prevailing low prices. Bean harvesting has commenced and the crop as a whole will only be a fair one.

Sacramento Valley Counties.

Tehama County (Red Bluff).—Exceptionally cool weather has prevailed since August 1st, which conditions favored fruit. Harvest is over and the crop is a good one, and most of the grain has been shipped.

Colusa County (Grand Island).—Harvesting is about over and the farmers are well pleased with the results.

Sutter County (Yuba City).—Prunes are ripening and the crop will be a good one. No hops will be picked at Nicolaus.

Yuba County (Wheatland).—Hops are in good picking condition and it is proposed to commence early and finish before the hops are overripe.

Placer County (Newcastle).—The fruit harvest is now at its best, and the weather has been very favorable for the picking.

Sacramento County (Sacramento).—The fruit growers along the Sacramento river below this city are shipping most of their fruit to San Francisco, because it is too ripe to ship East. There is a much larger crop of peaches than was expected.

Yolo County (Dunnigan).—The lowland farmers are about through harvesting, but in the foothills threshing is still going on and the wheat is being hauled to the warehouses for storage. (Grafton)—Hay making still continues among the alfalfa growers. Egyptian corn is growing vigorously. Some of the bean ranchers are disposing of their crop in the green state and are realizing good profits.

Solano County.—Notwithstanding the frosts of last spring the Muscat grapes will ripen about as early as usual. (Binghampton)—The farmers, with a few exceptions, are through with grain threshing and hauling, and most of the grain has been sold. The grain season is about over and the farmers are satisfied with the results.

Napa, Sonoma and Santa Clara Valleys.

Napa County (Napa).—The grape crop will be much larger than was anticipated at the beginning of the season.

Sonoma County (Penn's Grove).—The grain crop is turning out rather poorly, although it is as good as was expected. Hay is somewhat better. (Santa Rosa)—The grapes in the vicinity of Fulton are cracking owing to the intense heat.

Santa Clara County (Campbell).—Prunes are coming in very slowly to the drier so far. The cool nights and mornings have had a tendency to keep the ripening process back. (San Jose)—Prunes are ripening, but the size is much smaller than last year.

San Benito County.—Harvesting of the sugar beet crop has begun, and wherever the ground was put in good condition before planting there is a good crop, but the late spring rains packed the ground after most of the beets were planted, and where the ground was not replowed and the beets replanted the crop is a light one.

San Joaquin Valley.

San Joaquin County (Lodi).—Grain harvest is about over and the quality is generally a good one.

Fresno County (Easton).—Grapes are ripening and the picking will not be more than a week later than usual and the raisin crop will be inferior. (Fresno).—The weather has been very beneficial to the grape crop. Fruit drying is making good progress under favorable circumstances. (Hanford).—A year ago at this date ripe grapes could be found in any of our vineyards, but now there are none ripe. The crop is about two weeks later than last year. The berries are small, but there is time for them to swell. The crop will not be a large one in Kings county.

Kern County (Delano).—The harvest season is not yet over in the fields along Poso creek. Much of the irrigated country returned a good crop of fine grain. The yield on the dry lands was comparatively light.

Southern California.

Santa Barbara County (Santa Maria).—The bean crop bids fair to be only ordinary and not as good as last year. Grain is all threshed. A few fields of beans are ready to be harvested.

Ventura County (Saticoy).—The bean crop has suffered but little from the heat, the crop of which bids fair to be an average one. The small beans will soon be ready for harvesting, while the Lima beans are yet maturing. (Ventura).—Barley threshing is finished and the crop is a light one.

San Bernardino County (Chino).—The past week has given better weather for ripening beets than at any other time. Harvesting is now going on rapidly.

Coast Counties.

Humboldt County (Eureka).—Another week of dry weather with temperature ranging from 2° to 6° above the normal. Harvesting is progressing, with results generally below the average. Dairymen are beginning to feed their stock and the grass is drying up rapidly.

Mendocino County (Point Arena).—Farmers along the coast are busy harvesting and the crops are good ones. (Pomo).—Threshing is in full blast; the wheat is badly shrunken and the yield will be less than an average.

San Luis Obispo County.—The hot weather of two weeks ago has injured the bean crop on the high lands, but those on the bottom lands are looking well. Threshing will soon be in order. Bean threshing will soon begin, as the beans are rapidly ripening on the ground.

Mountain Counties.

Lassen County (Susanville).—Crickets have made their appearance near Fort Bidwell in large numbers, but as yet no great damage has been done by them. They appear to have come from the mountain regions, but are being herded off the fields and turned back as much as it is possible to do. They travel in great droves, and by the farmers making a great noise, by beating tin pans, etc., their course can be turned in another direction. It is to be hoped that they can be kept away from the grain fields.

Flax Growing in Solano County.

The flax experiments in the southern and eastern portions of the Montezuma hills have turned out more satisfactory this year than were anticipated, says the Solano *Republican*. On some ranches it is no longer an experiment. This is the fourth year of several of the ranches, and the growers have found that the yield has increased each year.

James Philpot of the Rio Vista district is probably the most extensive flax grower in Solano county, 225 acres of his ranch having been devoted to this industry this year. The information he gives the *Republican* no doubt will be interesting to farmers generally. He had a special separator made for his combined harvester, for harvesting his own and the crops of flax of several of his neighbors. He has finished 50 acres on A. McCormack's ranch and 30 acres on Jack Elliot's place, the former crop averaging 12 sacks to the acre and the latter 10 sacks to the acre. The cost of harvesting by the improved machinery is about one-third more than for wheat, and the flax seed sells readily in San Francisco for $1.50 per cental, this being the price offered this year. The weight of the sacks averages 122 pounds each. At present no use is made of the straw.

FRUIT MARKETING.

Our Dried Fruit in Europe.

It is exceedingly important to have foreign consuls who are well informed upon American industries, for they not only appreciate what style of information will be of advantage to American producers, but they also understand how to give valuable hints for the extension of the foreign trade in American products. Beyond this general proposition, we have to add the importance to California to have a citizen in such a position, as the matters we submit below will demonstrate.

Mr. E. Germain of Los Angeles is United States Consul at Zurich, in Switzerland, and knowing California fruit products, he has looked into their sale on the continent of Europe. The Department of State at Washington has just published a special report from Mr. Germain, which we give in full below:

California Prunes in France.—Quite a quantity of California French prunes were exported to France last season. A California firm of my acquaintance exported a round lot to Havre, France, and while on leave at home in California last winter I had the opportunity of investigating matters a little closer. Upon investigation, I learned the following facts:

California French prunes, such as were shipped, gave good satisfaction and were sold not as California prunes, but as the genuine French-grown article, being fully as good in quality and appearance. The receiver of said lot made the following suggestions for another season's shipment:

Goods must be packed in cases similar to those used by the French. Net weight must be marked on cases in kilograms, and prices made per kilogram and not in American pounds. Eliminate all marks, names of firms, or place of origin, so as to enable French importers to sell the goods as a French product. The size of fruit being determined by its number to the pound in America, the same method prevails in France, with the difference that, instead of figuring as we do by pound, the size is determined by so many to the kilogram, and, in order to be successful, we must adopt the French way and quote accordingly. Small fruit is not wanted, only such as run from forty to sixty and, a few, eighty to the pound, or its equivalent figured by kilogram, will find a ready market.

Mr. Germain's Idea of Packing for France.—My idea is that prunes should be shipped in good, strong sacks. This will not only save freight charges, but also allow the French to pack the fruit in boxes of sizes and form best adapted to their trade. As long as we have not our own American houses abroad, we must submit to have our product sold without getting due credit for it and let foreigners reap the lion's share of profit out of our goods. I reiterate what I have written on previous occasions, that the only way we can successfully introduce our goods, compete with other points of production, get all the traffic will bear, and thereby establish a permanent market abroad for our products, without, however, going to extremes, is to establish agencies at some of the principal European ports, with some of our own interest people as agents, and from these points work all Europe.

Why our Prunes Got to France.—Prunes were sold very cheap free on board at California points last season. The prices ranged from 3 cents for small, 3½ cents for medium, and 4 to 4½ cents—even some lots sold at 5 cents—for large to fancy, free on board California. This, no doubt, was the reason we succeeded in getting our prunes into French markets. These figures may seem low to the uninitiated, but when it is explained that the yield of prunes per acre is large, the fruit more easily handled, dried, and packed for market, at a less expense than peaches, apricots, nectarines, pears, or apples, and that it takes but three pounds of green prunes, as against seven pounds of apricots and eight pounds of peaches or apples, to make one pound of the cured or dried articles, it becomes at once evident that taking prunes at the lowest figure above named,

which represent fruit running from eighty to one hundred and twenty to the pound, namely, the cheapest grades, it will bring the grower one cent per pound or $20 per ton for his prunes in a green state on the trees, which I, as well as others, must consider a pretty good revenue, and which means a return of not less than $200 per acre for the small-sized or cheapest prunes.

Dried Fruits in Switzerland.—I have investigated of late the market for American dried fruits in Switzerland, which, when I first came here, was poor. None were to be found; only once in a while a box of stray apricots found its way to this country and retailed at 48 cents per pound. To-day, one can find American ring apples, California dried pears, peaches, apricots, and nectarines in nearly every retail store.

The French prunes sold here under French label probably hail from California also, but the prices of all our dried fruits are still too high to make them popular. While apricots now retail at 20 cents per pound, peaches, pears, and nectarines are held at 30 cents per pound, which is ridiculous, when, as I know, apricots sold free on board California points last season at 5 to 6 cents, while nectarines and choice and fancy peaches went begging at from 3½ to 4½ cents per pound, the former for good average and the latter price for fancy, unpeeled stock.

The reason for this discrimination is no doubt to be attributed to the fact that apricots are already well and favorably known throughout Europe and are shipped in large quantities, while peaches, nectarines, and pears, which can be produced as cheaply, and, in the case of pears or peaches more cheaply, than apricots, have only been sent here, so far, in a small experimental way. Swiss customs statistics do not show how much dried fruit was imported during 1894 and 1895 into Switzerland from the United States, because none, so far as I can learn, reached the dealers in a direct way; hence I can not at this time give statistical information. All such fruits are brought from the German, French, Italian, and English importing firms by jobbers, who, in turn, sell to the retail trade, and this has a tendency of increasing the price of these commodities materially.

The 1896 Crop of Prunes in France.—After returning to my post, I inquired into the prospects of the incoming French prune crop, and the reports I have obtained from a reliable French source, in a letter dated Havre, June 23d, reads about as follows:

The writer has just returned from (des pays du Midi) southern parts of France, where the main crops of "Prunes d'Ente" are cured and packed, where I went in quest of information as to the prospects for the incoming prune crop. Judging from present appearances, the crop should be good, the trees having blossomed well. The packers lost considerable money last year, owing to California competition. They know this competition is formidable (redoubtable) and growing more so every year, especially so for large-sized fruits (our small fruit is not in demand), and they are trying to combine in order to purchase the green French product at lower figures than heretofore (to which scheme the producers no doubt will seriously object) in order to be able to drive out this unwelcome new California competitor. The important matter is to ship the California product in French cases and bill in French weights (to facilitate calculation). The French retail dealers find no difference between the real French and the transoceanic article and buy it readily; but, like last year, however, only good-sized clean fruit will be in demand.

Zurich, June 25, 1896. EUGENE GERMAIN, Consul.

The Season's Canned Fruits.

The canning season is approaching its latter end and the following notes which Cutting Packing Co. give, under date of August 20th, are interesting:

Apricots.—The season is over and packers are figuring for an outlet for surplus standards and seconds. Pack is not over 60 per cent of an average; there is an opportunity, finally, to clean up, if the distributive trade is at all active. Extras are already at a premium, and as dried apricots are very firm, there is a good fighting chance for the long-suffering canned.

Peaches.—Frees are in much better supply than anticipated, but the quality is very poor; choice sell freely at good prices, but there is a great surplus of goor quality at buyers' prices. Clings are of excellent quality, but scarce, and prices for extra canning stock have advanced. Altoghther the packing of frees will be large and of poor quality, while there will probably be an average pack of clings, a large portion of which will be extras.

Pears.—There is probably the largest crop ever grown in the State, and the poorest ever known as to quality; winds and hot weather have supplemented the work that was begun by overcrowding and lack of thinning by the growers; receipts are now at their height and there is a very large pack, the largest for several years, of poor standards and seconds; doubtless every contract for extras will be filled short, as it is not possible to procure any large proportion of good stock; we look for buyers' prices for low grades.

Plums.—The lightest pack known for years; crop is very short, but of good quality; prices of canning stock are very high; most packers are too busy on peaches and pears to bother with them.

Small Fruits.—In the dumps, but as there was a very light pack present stocks are not worrying holders.

HORTICULTURE.

New Strawberries in Southern California.

The experience of years has shown that the different regions of California are not all adapted to the growth of the same varieties of small fruits. In these, as in large fruits, there are as wide differences in adaptability to locality in California as in half a dozen Eastern States. We always endeavor to give our readers suggestions to meet their localities as closely as possible. Byron O. Clark of Pasadena is now giving much attention to small-fruit varieties at the South and gives the *Cultivator* some of the results of his observations.

New Varieties at Pasadena.—A visit to the well-kept home place of J. B. Corson of Pasadena the past week enables me to make note of some of the newer varieties. First shown me was a chance seedling of Mr. Corson's fruiting for the first time this spring, which he has named "Found." It averages about with the Arizona in size and about same quality, but possibly of better color. It is a seedling of the Arizona. Mr. Corson thinks if it continues to promise as well as at present, it will be worth saving. Another berry "3 x No. 4," is of good size, bright red color and of sprightly acid, like the old Wilson; has perfect flowers and is quite prolific.

Mr. Corson's Choice of the Older Kinds.—"Genesee Prolific" seems well adapted to growing in matted rows and well entitled to the name "Prolific;" of fair size, good flavor and color. "Bubach No. 5" promises well and of good quality. "Jessie" is one of the best flavored berries he has, but is not so large in size as to attract special attention; good color. This berry does best on warm, sandy soil, apparently, as others with heavy soil do not speak favorably of it. I understand it is quite a favorite with some of the Azusa growers. Mr. C. endorses all said by the northern growers of the good qualities of the "Dollar" strawberry, and says it is one of the best for canning on account of its high color and extra flavor. After sampling a dozen or more kinds, I readily made it first choice in all points that go to make a first-class berry. I believe it will be a leader.

Soils.—As soil has so much to do with the success or failure of different kinds in various localities, it is well to mention that Mr. Corson's soil is a rich, sandy loam deposit on top of granite loam, the surface soil having been deposited by a wash from the mountains in recent years. It is an important matter to select varieties suited to your soil. While some varieties will do well on all soils, others are very sensitive to the character of soil and will not thrive at all if not in their proper element. I hear reports of the Arizona giving poor satisfaction on heavy soil. While it will thrive on any warm, loose soil, it seems best suited with a sandy sediment deposit, and is pre-eminently the berry for dry, sandy soils where many other kinds would be a failure.

Mr. Sturtevant's Experiments.—On a recent visit to Mr. E. D. Sturtevant of Cahuenga valley, I had the satisfaction of seeing the Marshall strawberry in fruit and am very much pleased with it. This berry has created a greater sensation among strawberry men than any that has come out in the East for years. The originator, Mr. Marshall Ewell, claims to have produced 3000 quarts on one-third of an acre. He took two first and three second prizes from the Massachusetts Horticultural Society in 1892, and has produced berries seven inches in circumference. As I saw it at Mr. Sturtevant's, it is certainly a promising berry for this country. The fruit is of good size and shape and finely flavored, with a beautiful red color that would attract attention in any market. Mr. S. has it fruiting on adobe soil, and also has some young plants started on sandy soil which were looking equally well. In a letter of June 8th, Mr. S. says: "I find the Marshall a good grower, with foliage and fruit standing well up on long stems. It is one of the brightest colored berries I have ever seen and the flavor is very fine. With slight interruption, my plants have been bearing since March."

Policy with New Varieties.—I believe that in introducing this berry, Mr. Sturtevant has not only done a good thing for himself, but also for the berry growers of southern California. It is only from testing new kinds in our respective localities that we can determine what is best. It is expensive buying new kinds at high prices, for out of the many only a few are worth growing, either from soil or climatic conditions, or from that innate characteristic of the average producer of new fruits, who thinks, because it is *his* "offspring," it must necessarily be better than anything heretofore produced, and the purchaser finds its superiority to consist mainly in the magnitude of the fraud. There should be some restriction on the introduction of new fruits without first being tested by disinterested and competent judges. As an example of how few have superior merit, I have only found the Arizona, Dollar and Marshall, out of about two dozen of the newer kinds I have examined, as promising to be of more than average merit, with say three or four others that might be classed as worth growing except perhaps by the amateur. Of course there are many with some special characteristic, but they are not of the class that will make them profitable for the grower. What we want is *the best*, and of a "well-balanced character," as we would say if we were speaking of a leader of men and not of small fruits. There is a great fascination about trying new kinds, but aside from the pleasure and information gained, it seldom pays, except you find a stray diamond among the rubbish. When you find a berry especially suited to your local conditions of soil and climate, stay with it until you find something better; but do not allow yourself to think that there are no improvements going on, as you must keep up with the times and always aim to grow the best.

FLORIST AND GARDENER.

The Tree Tomato in California.

The "tree tomato of Jamaica" has been grown for some time by a few southern California horticulturists and two years ago the seed was distributed by the State University. The plant is not very hardy and is not adapted to very frosty places but where it succeeds it is quite desirable. Mrs. Thodosia B. Shepherd of Ventura has written an account of it for *American Gardening* which will interest many Californians. It is a native of South America, has been grown in southern California for several years, but is still rare. California people are slow to take up new fruits or flowers.

I felt sure that *Cyphomandra* or *Solanum betaceum*, would some day be one of our valuable fruits for shipping, and have urged different persons to grow it in quantity, but they did not have confidence to take the risk. It has been among the ornamental plants in my garden for three or four years. One day a Scotchman who had spent many years in Ceylon came into the garden when the tree was full of fruit, and exclaimed with delight, "Oh, the Tree Tomato! I have not seen it since I left Ceylon, where it is called 'the poor man's fruit.' There it is eaten, cooked and uncooked, in various ways. It is very highly prized and very delicious." I knew already that I liked the fruit very much, as it was picked from the tree. Since then I have tested it in numerous ways and have come to the conclusion that it is good enough to be the *rich* man's fruit.

When fully ripe it is delicious. When the outer rind is taken off, and it is sliced, it can be served as a salad, with dressing, or eaten with sugar and cream. It makes a fine jelly or jam, with the flavor of apricots, but more delicate. The ripe fruit does not bruise easily, because of the thick outer rind, so that it keeps a long time, and can be shipped long distances.

It comes into bearing near Christmas, and the handsome clusters of fruit sent East at that time would be very taking. Children are very fond of it, especially boys; so much so that an English mastiff, or other big dog on the premises, is of very great assistance in growing it.

The seeds resemble those of the ordinary tomato. They germinate in about four weeks, and the plants come into bearing the second season. A small plant put out in early spring will bear in December. It grows to the height of ten or twelve feet, outside, with a spread of ten or twelve feet. The leaves are large, broad, cordate, and something a foot in length. The flesh colored flowers are inconspicuous, but very fragrant.

The great beauty of the tree is in its fruit, which hangs in long, drooping clusters, plainly visible below the foliage, in rich contrast to the dark green leaves. The fruit is at first a dull green, and gradually assuming a warm reddish color in some plants, on others, a pure, rich salmon. It is the size and shape of a large egg, with the large end up. The flavor is sub-acid, slightly resembling a tomato's, but still very different. The outer rind is tough and about a quarter of an inch thick. There is a pulpy center, surrounded by seeds, and a firm pulp next to the rind.

It bears through December and January, beginning near the first of December. A large tree, well cared for, will give from a half bushel to a bushel of fruit. Aside from its value as an ornamental tree, and as a fruit, it is said to have valuable medicinal qualities, having a very beneficial effect on the liver. It would certainly be a very pleasant medicine to those afflicted with liver complaint, and much less expensive than the generality of remedies. There is one thing sure, if it does not cure it cannot kill.

It makes a very handsome ornamental plant in pots. Grown under glass, the leaves are shining and very tropical looking. The young growth has a purplish cast that is very pleasing, and I should think that if plants were brought well along during the summer in large boxes or tubs, that it would fruit in the greenhouse. It is a very interesting plant to grow under any circumstances, but one who has once seen it in fruit, would hardly be satis-

fied to grow it and miss seeing it at that beautiful stage.

As to the temperature in which it may be grown, with us, where it grows outside, the thermometer *sometimes* goes as low as 29°, though rarely below 32°. This point, however, is peculiarly favored. Its close proximity to the sea, with the foothills directly back, gives a very unusual climate. The occasional frost and ice do not greatly injure plants, as it does further back. Coleus, though they do not *grow* outside in the winter, will live, and come up finely in the spring.

Care About Melon Seed.

It is conceded that the watermelon crop of Lodi, says the *Review*, is deteriorating in quality and growing later in season every year. Lodi melons have been noted far and near for excellence, taking the palm over all others grown on the coast. While they still hold that place it is possible for them to lose it, and that result is probable unless a change is present methods is made.

The fault is with the growers. Instead of selecting the finest early melons from which to procure seed for the next year's crop, the custom, almost invariably, is to get seed from the best left in the fields after the season is over. In this way the late ripening melons only are reproduced, and the season made later from year to year.

Experience has shown that all vegetable and animal productions can be improved by careful selection and attention to the details of cultivation. New varieties of fruit come in this way, and many valuable improvements have resulted in every field of industry. Strawberries have been entirely changed from the small acid berry first known.

Lodi watermelon growers cannot afford to be careless in this matter. They have it in their power to improve the quality of their product and bring it into the market earlier. Now is the time to institute a reform in the old careless way. Every grower should get his seed now for next year. He will suffer if he allows his opportunity to go by without attention.

THE POULTRY YARD.

Selection of Breeds and Breeding.

A mistake is oftentimes made (says Mr. G. C. Watson, in a bulletin just issued by the Department of Agriculture) in selecting fowls of a breed that is not suited for the purpose for which they are to be kept. If egg production is the all-important point, it is a most serious mistake to select a breed of fowls that is not noted for this product. If, on the other hand, meat is the chief object, an expensive mistake will be made if any but the heavy-bodied fowls are chosen. The small, active, nervous, egg-producing breeds cannot compete with the larger phlegmatic Asiatics for meat production. Then, too, if fowls are kept for both eggs and meat production, some breed of the middle class should be chosen. These, while they do not attain the great size of the Asiatics, are sufficiently large to be reared profitably to supply the table with meat, and at the same time have the tendency for egg production developed sufficiently to produce a goodly number of eggs during the year. The Wyandottes and Plymouth Rocks are good illustrations of this class of fowls. While individuals of these breeds have made excellent records in egg production, the records of large numbers do not compare favorably with the egg production of the Mediterranean fowls. All of the so-called Mediterranean fowls have a great tendency toward egg production and require only the proper food and care to produce eggs in abundance.

A serious mistake is also made in selecting fowls for breeding purposes and in selecting eggs for hatching. On many farms the custom is to select eggs for hatching during the spring months, when nearly all of the fowls are laying. No matter how poor a layer a hen may be, the chances are that most of the eggs will be produced during the spring and early summer months. A hen that has laid many eggs during the winter months is quite likely to produce fewer eggs during the spring and early summer months than one that commenced to lay on the approach of warm weather. Springtime is nature's season for egg production. All fowls that produce any considerable number of eggs during the year are likely to be laying at this time. It is therefore plain that whenever eggs are selected in the springtime from a flock of mixed hens, composed of some good layers and some poor ones, a larger per cent of eggs will be obtained from the poor layers than at almost any other season of the year. A serious mistake is therefore made in breeding largely from the unprofitable fowls. Whenever it is possible, fowls that are known for the great number of eggs they have produced during the year should be selected for the breeding pen. While it will be almost impossible, and certainly impracticable, in the majority of cases, to keep individual records of egg production, yet a selection may be made that will enable the breeder to improve his flock greatly.

The two things necessary to produce large quantities of eggs with the Mediterranean fowls are: (1) Proper food and care, and (2) a strong constitution, which will enable the fowls to digest and assimilate a large amount of food; in other words, fowls so strong physically that they will stand forcing for egg production. In this relation, we may look at the fowl as a machine. If that machine is so strong that it can be run at its full capacity all the time, much greater profit will be derived than if it can be run at its full capacity only a part of the time.

There is, perhaps, no time in the history of the fowl that will indicate its vigor so well as the molting period. Fowls that molt in a very short time and hardly stop laying during this period, as a rule, have strong, vigorous constitutions, and if properly fed give a large yearly record. On the other hand, those that are a long time molting have not the vigor and strength to digest and assimilate food enough to produce the requisite number of eggs. If it is necessary to select fowls at some time during the year other than the molting period, some indication of their egg-producing power is shown in their general conformation. In selecting a hen for egg production, her form will give some indication of value. A long, deep-bodied fowl is to be chosen rather than one with a short body, whose underline is not unlike a half-circle. A strong, hearty, vigorous fowl usually has a long body, a deep chest, with a long and quite straight underline. Other things being equal, the larger bodied fowls of the egg breeds are to be preferred. It is a rule that fowls bred for egg production are larger bodied than those bred for fancy points. Whenever vigor and constitution form an important part in the selection of fowls for breeding, the size of the fowls is invariably increased.

A Setting of Hints.

Selection in Breeding.—Unquestionably, much can be done by selecting and breeding from the best hens as is done with larger stock. The *Farmers' Review* hopes that some of its readers will enter on a course of breeding up their fowls: not the infusion of new blood into the flocks, but the improvement of the flocks by selection. Take the Brown Leghorns for illustration. There is a great difference in their laying qualities. Some of them, if we may believe reports, will lay 200 eggs per season, while others will not lay half of that number. As the breed grows older without any attention being paid to this matter the divergence of qualities becomes greater. The man that will undertake the work will reap a rich reward, if he have the good sense to hold on to the fowls thus bred up. The selection should be in the following manner: Take the pullets of the first year of their laying and enclose each one in a separate pen. Their egg production for the first year will show which ones should be used for breeding and which not. Select for the second year's work only the ones that have made the best record for the first year. The second year mate them with the largest males and use the eggs for hatching purposes. Then use the chicks from those eggs in the same manner as the first pullets mentioned. A few years of this kind of work will produce a flock that will be money getters indeed.

The Capon.—A writer for the Santa Ana *Blade* exalts the capon. A capon grows one-third larger, his meat is twice as tender and palatable, he fattens twice as easily, he does not interfere with the hen in her egg business, he is content to let his brother capon rest on the same dunghill as himself, and his crowning glory is that he will brood young chicks to perfection. A good capon will raise a brood of 25 to 30 chicks and seldom lose one, where a hen or an artificial brooder will only raise one-half. Woe to the cat that approaches too near the capon's flock, for he soon learns that it is a matter of health to keep a respectable distance. Pages may be written showing the advantage of caponizing, but it is certainly unnecessary to do more than to add to the foregoing, that a capon can be raised to maturity with no more expense and much less trouble than a rooster, and at that point is worth twice as much. Quotations for capons in the San Francisco market range from $12 to $20 per dozen, and the supply is never equal to the demand. Any of the larger breeds make good capons, and everybody raising chickens should have some on the place.

Management.—The conditions for success in poultry raising are: Warm, light and dry quarters; clean water; wholesome food, and a moderate range. A cold-weather ration for thirty hens consists of as much finely cut hay as can be grasped in both hands, two quarts of bran, and the refuse from the table for the last twenty-four hours. This is scalded, cooled, and fed in the morning. They get grain, usually wheat, with an occasional feed of barley and corn, at noons and evenings. They get warmed water twice a day, which is liberally taken.

They should be kept well supplied with coal ashes, and receive ground bone twice a week. Hens should scratch for their grain, which keeps them healthy and prevents egg-eating. The house should be cleaned twice a week, and given a sprinkling of fresh lime. To keep the fowls free from vermin, sprinkle the roosts once a week with coal oil and turpentine, supply plenty of coal ashes for dust baths, and whitewash the houses once a year.

To keep up the stock to a high standard the hens should not be kept till over four years old. In the early part of March select about eight of the best hens and mate them with a male possessing as many as possible of the points desired to be perpetuated. Only the eggs from this pen should be set. This care will pay well for the doing. There is no profit in the haphazard system of management.

Varieties.—The sorts of poultry for the general farmer are those which have a reputation for having good business habits. The Plymouth Rock is a contented bird, can be retained with a reasonably low fence, is always thrifty, looks well when dressed, is a reliable sitter, a careful mother, and producer of a high average of eggs with reasonable care. The Leghorns are beautiful birds, great layers, but are too small for market. A cross between the Brown Leghorn and Buff Cochin, or between the White Leghorn and Light Brahma, gives fine, profitable birds.

To Break Up a Sitting Hen.—Use a light frame two feet square and two feet high. Cover the top with a board, and around the four sides have wire netting, about two-inch mesh. Put this frame in the yard among the other hens and enclose the criminal in it. She can see the flock, and while endeavoring to gain her liberty she forgets her broody habit. A day or two in this box is enough.

The Poultry House.—A flock of fifty hens is as large as is profitable in one pen. A house 8x20 or 25 feet, with liberal room, is about right. The hens should be confined each day until they are through laying, so that absolutely fresh eggs will always be secured, and an honest man's reputation is thus saved from question.

The Poultry Keeper.—A man who allows his hens to roost in cold quarters, exposed to winds and storms, gets eggs only when they are cheap, and decides that hens do not pay. The poultryman who builds an expensive house, keeps a large number of high-priced fowls, spends his whole time and a lot of money on them, rarely finds poultry-keeping an unqualified success. But the man who exercises common sense and good judgment in housing, feeding and attending to the details, not as a separate industry but as one branch of farming, is usually able to get enough out of it to largely keep the house in groceries.

Ticks in Chicken Houses.

Our poultry raisers, says the Anderson *News*, have been trying various ways to get rid of a pest which resembles a wood tick that has lately been playing havoc with the poultry. Mr. H. B. Kooser tells of a way which he tried and found to be effective, and that is to hang sacks around the walls of the hen house in the evening, and the next morning the sacks will be covered with the vermin, which leave the fowls at daylight. These sacks can then be carried out and the pests destroyed. It is not trouble to try it, and Mr. Kooser says it will do the business.

THE SWINE YARD.

Care and Mating of the Sow.

A. E. Warner of Tustin is one of the best known swine breeders in southern California and we have given his views in earlier issues on several important topics. He writes to the *Cultivator* upon the sow, speaking first of her shape.

Desirable Form in a Breeding Sow.—In talking of good breeding sows many people have many minds, and though there are probably not so many different types of really good breeders as there are ideas, nevertheless I think there are several. Perhaps the majority of breeders may agree on one point for a good breeder and that is, a long, deep body. This is evidently a good form to look for as, if you can readily obtain both length and depth in the same animal, you have gained two excellent features. My observations have been that in the medium type (as to length) it is easier to get a fine deep side, heavy loin and deep, broad ham than where extreme length is dominant. Some one will say, "Well, we must have the long sow for her broody qualities." That is all good if you are looking simply for the greatest number of pigs, but if you want a medium number, fine in finish, no runts and no scaly individuals, you want a model packer for the brood sow, "for like begets like." I have seen long sows that were poor breed-

ers and short sows that were excellent breeders, and have thought that perhaps sometimes it is in the hands of the breeder to make a success or failure of any type of sow, however much quality they may possess.

Must Study the Form of the Boar.—One thing is very certain. They cannot all be bred to the same boar with any degree of success. The study of proper matings is not to be ignored if we progress. Promiscuous breeding means degeneration. This is one reason why I am handling but one breed from now on. I have sold my entire herd of Berkshires and shall breed nothing but Poland-Chinas. Not but the Berkshires are good hogs, but I am willing some one else should make a success of them, and I am sure I can of the *ever ready* Poland-China. I have at present four Poland-China boars, which I am using for the next crop of pigs. I do not think I have one too many, although my herd of sows is not large. Lately I have bred five sows and have used all four boars, not particularly that I might mate unrelated pigs from future litters, but with a hope, at least, of blending the better qualities of both individuals in the moulding of the next generation. If we could secure a herd of sows of uniform type, and a boar of a suitable type to mate, we could probably breed successfully with one male to head the herd. Even then, though to all external appearances the females are uniform, they may not breed uniform litters, all being bred to the same male.

Care of Sows.—I might touch on the care of the brood sow, but some one may tell me that I preach more than I practice. I am well aware that my own stock do not get attention enough, but it surely is not through indolence. Believing that exercise is really necessary to good results with breeding stock, I have appropriated five acres of alfalfa as hog pasture. An artesian well furnishes the water privilege and, I regret to say, also mud wallow, for even the high-toned Poland-China, with her sleek black coat and white stockings, forgets all about her dignity at sight of a cool pool of water with about eighteen inches of mud at the bottom, especially about noon of a hot day. But there is a degree of satisfaction to see with how much comfort the undignified rascal smears herself from nose to tail and then comes out to distribute the mud among the spectators.

Feeding.—I have been astonished to see how very little food it takes to keep a mature Poland-China sow for the three months after breeding. Actually, I have been loth to tell people that come here that the stock they see have been fed nothing but what they graze, with an occasional batch of cull oranges. Until within a few weeks there have been nearly twenty head of mature stock, besides a lot of youngsters, on five acres, and a dry season.

Within a month of farrowing the sow should receive a change of diet. Not altogether; the grazing and exercise are all right, but she will need in addition to this, laxative food such as a mixture of wheat, bran and oil cake, in rich slop, twice a day. This method is not only a help for the system at farrowing time, but it is food for the growing litter just as much before birth as after. I believe it is necessary to feed the sow a similar ration before farrowing as she is to have afterwards, though, of course in much more moderation. Then as the pigs come along they are already accustomed to the regular fare and do not get the scours or thumps or any other ailment very readily.

Farrowing.—If the mother is allowed to run with the herd until within a few days of farrowing, with no extra attention, she may be doing all right for herself apparently, but if she does not have trouble in pigging, the pigs will more than likely be in poor condition and it will require considerable care on the part of the feeder lest he ruin what would have been a good litter in bringing the sow up on her food. Do not be afraid to feed the sow grain while nursing the litter. Many suppose that corn is bad for brood sows, and it may be at certain stages, but after the litter is two or three weeks old I begin with a little corn once or twice per day and increase gradually, and by the time the litter is two months old the sow is consuming a heavy ration of grain as well as a large amount of milk-producing food. In this way the sow at weaning time is not a mere skeleton, but comes out with a fat family and in a thriving condition herself. She will breed again in a few days and is in a condition to lay the foundation of another good profitable litter.

Public Sale of Berkshires.

To the Editor:—The public sale of Berkshires made by three leading breeders at the Fair grounds, Springfield, Ill., on August 12th was a success. Heretofore this breed of swine has never in this country been sold at public auction, so that this sale was simply intended as an "ice-breaker," and the gentlemen who here had representatives from their herds for what might be called an experiment are deserving of credit. The animals sold were in the main excellent in individuality and pedigree, but some were a little old and many very young—mere pigs.

The forty-six animals, old and young, averaged $63, showing that, notwithstanding hard times, the hog breeders have faith in making money out of low-priced pork fed on low-priced corn. The highest price—$205—was for a sow; the highest for a boar was $190.

Springfield, Ill. J. G. Springer.

Salt and Ashes for Hogs.

Many California swine growers will endorse the advice given in *Wallace's Farmer* that it is exceedingly important to keep wood ashes and salt within reach of the hog at all times. It is astonishing how much they will eat of it, and astonishing also how far it will go to correct the evils of an unbalanced ration, for the ration is always unbalanced if it does not provide bone-making material. An acute observer has remarked that hogs whose feed is deficient in bone-making material are irritable, nervous, have a disposition to nag one another, and act just like peevish, irritable people whose nerves are unstrung and who have dyspepsia or as we say are hysterical. We do not know whether there is anything in it or not, but we are quite sure that a balanced ration, not merely in flesh formers and fat formers, but bone-making material, will tend to that quiet disposition, that peace of mind, that contentment with all things around them that leads to laying on of flesh, and that happy disposition that characterizes the good citizen, whether in the city, in the country or in the hog yard.

While all things go well with the hog inside, he is not much disposed to meddle with things outside, and whether things go well or ill with him depends more on the kind of food he receives than on anything else. It is when people are not feeling well that we have upheavals in politics, panics in business and general discontent, and it is an increase in bad citizenship. It is about the same way in the hog yard. The hog's world is not a wide one, mainly connected with eating and drinking and an occasional rooting, and therefore if he is given a ration well balanced in its mineral, its flesh-forming and fat-forming side, he becomes a fat, happy, prosperous citizen of the farm and a money maker.

THE DAIRY.

An Eastern Opinion on Dairy Refrigerators.

Many California dairymen would really like to know whether they can profitably use refrigerating machines in their dairies or creameries. Some are used now but we do not remember to have seen accounts of their profitability from those who have them. We should very much like to hear from our dairy readers on this subject. To open such discussion we give a reply which an Eastern dairyman, who is acquainted with ice machines from an Eastern point of view, gave to a California inquiry addressed to *Hoard's Dairyman*. The question in substance was as follows:

Tell me what is the best and most advisable way of getting a room of cold storage, say, 50° for a creamery handling 5000 to 7000 pounds milk per day. We do not keep butter on hand but ship every day. Our summer is warm. For several months we have 100° to 110°. Ice costs us 65 cents per 100 pounds. We should like very much to have you tell us what you think it would cost us to cool a room 10x10x6 to 50° by either buying ice at 65 cents, or by aid of a refrigator machine. We could sell near home two to three tons of ice per day at 50 cents per 100 pounds. What would a small ice plant cost.

The Eastern dairyman very properly remarks that he has difficulty in replying intelligently to inquiries like the above, because of a lack of detailed knowledge of the local conditions, but he does not hesitate in advising the adoption of a small refrigerator machine which will be sufficient to cool a room like that and the cream as well. The price of ice, $13 per ton, he says, makes this reply imperative.

Eastern Cost of Refrigerating Machines.—In creameries in the East such a plant may be put in a creamery for $700 to $800, provided there is an extra three or four-horse power to spare from engine and boiler, and that the room is insulated. But what the cost would be in California, I could not tell. First, the cost of the plant would be higher, partly because the extra freight and the traveling expenses of an expert will be higher, and partly because there will be needed more piping in the room and it will require better insulation. If there is power enough, I do not believe the total cost will exceed $1200.

Cost of Operating.—As to the expense of producing the amount of chilling effect corresponding to one ton of ice, it is liberally estimated at the East at $1, but owing to the higher temperature in the air, and I presume in the water, the power used will be considerably greater. This means more coal, more lubricating oil, longer time of running, and hence I do not feel safe in placing the cost at less than $2 per ton, ice cooling effect. While all this, of a necessity, is more or less guesswork, I feel pretty safe in saying that there would be an annual saving of at least $500 by using a refrigerator machine over and above using ice at $13 per ton.

Making Ice for Sale.—Making ice does not pay as a business unless ten tons are made a day. To do it economically the machine must be run night and day, and for this reason I am not inclined to advise going into it on a small scale.

Finally, as to the cost of cooling such a room with ice, that depends on the insulation of the room and the care taken in opening the door as little as possible, but I feel sure it cannot be done with less than fifty tons a year, including what is needed for cooling the cream.

Making Granular Butter.

There is a correct method of butter making recognized the world around and practiced, with some modifications, perhaps, in first-class establishments everywhere; and yet, though we have described such practice time and time again, we find some, especially butter makers at home or in small dairies, do not know or practice its important features. We refer to the matter, therefore, once more, using for the purpose some simple rules for butter making which have been issued by the Royal Agricultural Society of England. They are put in the following forcible manner:

Prepare the churn, butter worker, wooden hands and sieve as follows: 1, rinse with cold water; 2, scald with boiling water; 3, rub thoroughly with salt; 4, rinse with cold water.

Always use a correct thermometer. The cream when in churn to be at a temperature of 56 to 58° in summer, and 60 to 62° in winter. The churn should never be more than half full. Churn at number of revolutions suggested by maker of churn. If none are given, churn at forty or forty-five revolutions per minute. Always churn slowly at first.

Ventilate the churn freely and frequently during churning, until no air rushes out when the vent is opened.

Stop churning immediately the butter comes. This can be ascertained by the sound; if in doubt, look.

The butter should be like grains of mustard seed. Pour in a small quantity of cold water (one pint to two quarts cream) to harden the grains, and give a few more turns to the churn, gently. Draw off the buttermilk, giving plenty of time for draining. Use a straining cloth placed over a hair sieve, so as to prevent any loss, and wash the butter in the churn with plenty of cold water; then draw off the water, and repeat the process until the water comes off quite clear.

To brine butter, make a strong brine, two or three pounds of salt to one gallon of water. Place straining cloth over mouth of churn, pour in brine, put lid on churn, turn sharply half a dozen times, and leave from ten to fifteen minutes. Then lift the butter out of churn into sieve, turn butter out on worker, leave it a few minutes to drain, and work gently till all the superfluous moisture is pressed out.

To dry salt butter, place butter on worker, let it drain ten to fifteen minutes, then work gently till all the butter comes together. Place it on the scales and weigh; then weigh salt; for slight salting, one-quarter ounce; medium, one-half ounce; heavy salting, three-quarters of an ounce to the pound of butter. Roll butter out on worker and carefully sprinkle salt over the surface, a little at a time; roll up and repeat till all the salt is used.

N. B.—Never touch the butter with your hands.

Butter vs. Hay.

Livermore has been a famous hay region for a generation; it is now making its first season with a creamery. The *Herald* says that last month—the very poorest of the year for dairying—the Livermore creamery paid farmers $409 in gold coin for cream and bought 402 pounds of butter, or about $500 in all. Besides this, they got back the skimmed milk, which is worth considerable. The stockholders of the creamery have every reason to be gratified with the success that has attended its career thus far. It has come just "in the nick of time" to bring new hope to our discouraged farmers and lead them into the better way of farming.

Hay or Butter.—The Livermore valley farmer is taking a step forward. He is going out of the "raw material" business and more and more into the production of the more valuable agricultural "goods," which nearer approach the finished article of commerce. For instance, a ton of hay sells for $6.50 at the prevailing prices; it costs $1 a ton to cut and stack it, $1.50 to bale it and an average of 50 cents to haul it to the warehouse or railroad. These expenses cut the proceeds from a ton of hay down to $3.50. A ton of hay fed exclusively will keep a good cow forty-five days, and a good cow will produce a pound of butter fat per day, worth 20 to 25 cents per pound, or from $9 to $10. Aside from this, she will yield in the same time one-half ton of skimmed milk,

worth from $1.50 to $2 cash, or more, if fed to hogs and chickens. Moreover, her calf will add to the income, and her pasturage will renew the land and not wear it out. Taking all these things into consideration, a ton of hay fed on the farm is worth easily $12.50 as against $3.50 baled and hauled off to market.

Cost of Hay.—Figure the thing closely. What is there in selling baled hay at $6.50 a ton? Take out cutting, stacking, baling and hauling, $3; take out plowing, seeding, etc., $2.50; total expense $5.50. This leaves $1 net for a ton of hay, out of which interest must come, leaving a mere pittance or absolutely nothing.

But do you say you get more than $6.50 for your hay? Well, how much more? Perhaps $1 at the outside. At best you don't clear more than $1 a ton, do you? How does that compare with the $10 per ton, easily netted by the farmer who works his hay up into butter fat, beef, eggs and poultry upon the farm?

Does it pay, this raw and reckless sort of farming? When we see great wagonloads of hay rolling into town to be shipped away to distant markets, we deplore this wasteful export of the salts of the earth from this fair valley. We lament this impoverishment of our farms and our farmers.

A Hollister Dairyman's Receipts.

C. Swanson of Hollister writes to the manager of the local creamery as follows: "Having received a payment to-day which completes a year's business with the creamery, I am able to tell exactly what my three cows have done. I started in the first of August delivering 66 pounds of milk, for which I received 65 cents per 100 pounds. At the end of the month I was paid $13 and received 90 gallons of skim milk. This was $2.80 more than I had made the previous month by delivering butter at the highest price to cash customers around town. I was also rid of all the botheration and labor of making good butter. To go into detail would take up too much space, but my opinion is that farmers within a radius of five miles of the creamery cannot do better than to raise alfalfa, sugar beets and carrots for cow feed, and sell the milk. I judge, of course, from my own three cows, which furnished the creamery with 24,540 pounds of milk in twelve months, for which I received in cash $185.65. I have three acres of alfalfa and about half an acre of carrots and sugar beets. This will furnish feed for the year for three cows and a horse, and I venture the assertion that no orchard land will produce an equal revenue. Farmers can do no better than to go to milking cows."

THE VETERINARIAN.

Lameness in Horses and Mules.

Two years ago we gave a very interesting series of articles on this subject which our readers commented upon very favorably. The detection and treatment of lameness is certainly one of the most important matters in the handling of farm stock. The South Carolina Experiment Station has recently made a publication on the subject, of which an outline may prove serviceable. Many horses are sold at a sacrifice because they are lame, and the owner knows neither the cause nor cure. The trouble may be very simple and easily remedied, but very few people know how to locate the cause and fewer still know how to remedy the evil.

Causes of Lameness.—Lameness may be caused by a corn, a shoe nail in the quick, a bruise on the leg by the wagon tongue, a strained tendon or a splinter broken off in the foot, the spongy frog having closed over it, thus hiding it from view. None of these injuries could be seen. Again, lameness may arise from faulty or weak conformation of the bones or muscles, the tissue being too frail to stand the strain put upon them. "Coon-foot" is caused by the fetlock being too long, which puts extra strain on the tendons. "Curb" is caused by the hock being too sharp or crooked; or, if the hock is too straight, spavin may result. If the hoof is too high at the heel, corns result; and if it is too low, the heel contracts or pinches. Many mules are lamed by the constant striking of the wagon tongue against their legs on rough roads.

Locating Lameness.—To locate lameness, first carefully observe the way the animal stands. If the foot is placed in front of the natural position, the trouble is probably below the fetlock, particularly if the foot rests upon the toe. If the knee is kept bent, the trouble is likely in that joint. Next, have the animal slowly trot from you and towards you. As he trots from you, if the injury is in front, he will nod his head when the sound limb bears his weight and toss up his head when the weight shifts to the injured member.

Having determined which limb is affected, examine that limb from the toe up to locate the seat of trouble. Pick up the foot and tap it gently all over with a hammer. The animal will flinch as soon as the sore spot is touched. Be careful that you do not mistake a mere nervous attempt to withdraw the foot for a flinch. If no trouble is found in the foot, proceed upwards, feeling for heated, feverish or tender places or swollen tendons or muscles. If the trouble is in the fetlock, the animal when moving goes with a short, jerky step, merely touching the toe to the ground, or he may hop on three legs. In knee lameness, the leg is dragged forwards and held rather stiff. If the shoulder is the seat of the trouble, the whole joint is kept as nearly stationary as possible, the leg being brought forward with an outward swing. Hip lameness can be recognized by a peculiar hopping gait, the hock being turned in and the stifle outwards. In hock lameness the animal is inclined to walk on the toe. A stifled animal either keeps the lame leg stretched out behind, or stands firmly on the whole sole. In the first case he cannot back; in the second he cannot move the leg forward.

Treatment.—In treating lameness, apply hot or cold cloths or poultices to feverish, inflamed or swollen parts. If this cannot be done, bandage tightly to retain the natural moisture, keeping the bandage wet with a mixture of 1 ounce of sulphate of zinc and 2 ounces powdered acetate of lead in 2 quarts of water. If there is much pain, add 2 ounces of laudanum. Avoid liniments, as they generally cure only the mind of the man who applies them. Give rest during lameness, and begin with light work after recovery.

If bones are broken, secure the services of a trained surgeon.

Sprains.—Sprains cause the non-use of the shoulder, and this permits the muscles to waste away (called sweeny). Give above treatment, and keep up inflammation by clipping off the hair and apply ointment made of 1 drachm red iodide of mercury, 15 grains powdered cantharides and 1 ounce of lard.

Curb.—Curb is a swelling of the tendon, or leader, back of the hock. Treatment same as sprains.

Removing Splinters.—In case a nail or splinter has punctured the foot, remove it, and enlarge the wound so it will readily drain, and then cleanse it with oil of turpentine or a five per cent solution of carbolic acid, or lock jaw may result. Then turn to pasture till limping ceases.

Cracks.—For cracked hoofs, close bad and bleeding cracks with clamps and apply once in six weeks an ointment made of 1½ drachms powdered cantharides in 1 ounce of lard.

Splints.—Splints are bony growths or warts between the fetlock and the knee or hock. If under a tendon or leader, they produce incurable lameness. Rub with ointment above recommended for cracked hoofs; or, if near the joint, rub once a month with an ointment made of 1½ drachms red iodide of mercury, 20 grains iodine crystals, ½ drachm potassium iodide and 1½ ounces of lard.

Spavin.—For spavin and also for side-bone (the gristly cushions at the hollow of the heel turn to bone), rub with the following ointment: One drachm red iodide of mercury, ½ drachm of iodine crystals, 1 drachm iodide of potassium and 1½ ounces lard. Never try to remove spavin, splint or ringbone by cutting out. Even a professional generally fails to do this. Never open a wind gall, thoropin or bog-spavin lump, as an incurable inflammation will follow. In case a joint is dislocated (a very rare occurrence) call a veterinary surgeon.

Diseased Cow and Horse.

To the Editor:—I have a cow that has always been in good condition, gave plenty of rich milk and had plenty of life in her until this last spring and summer. Now she is very poor and gives scarcely any milk. Every step she takes seems an effort. She has excellent wheat and barley stubble and plenty of corn and corn stalks, morning and night. She had a calf last March and has not been bred since. If this cow has tuberculosis, or any other disease, how am I to find it out? Can the germs be detected in the milk, or how? My other two cows and two heifers are fat and doing nicely.

I also have a young mare that had the distemper last winter. I took good care of her, but a running sore formed at the base or roots of the tongue and has discharged a whiteish, offensive-smelling matter ever since. When the sore first formed I cut away all the flesh around it which seemed diseased, clear up into the cartilages at the base of the tongue. Then I used hot water and carbolic acid as a wash three times a day, applying clear inside by using a long point on a syringe. I made it heal slowly, and finally it got all well, and a kind of fuzzy hair grew around the edges. Then the old sore broke out again—a tiny hole, through which the whiteish, offensive-smelling matter ran usually when she was eating. I have cut away the flesh and repeated the above three times, with the same results. If there is anything I can do for this mare, so as to heal that sore up and not have it break out again, I shall be very thankful. An Old Subscriber.

Clayton.

RESPONSE BY DR. CREELEY.

The cow is consumptive, but, to prove it, inject tuberculin. Injections and directions can be sent from Kibbler's Pharmacy, corner Turk and Larkin streets, San Francisco.

The horse has diseased tissue, and the sore should be cut wide open and scraped out. A diseased gland, bone or a wild oat is the cause. Remove it and it will heal up. Dr. Creeley.

510 Golden Gate ave., S. F.

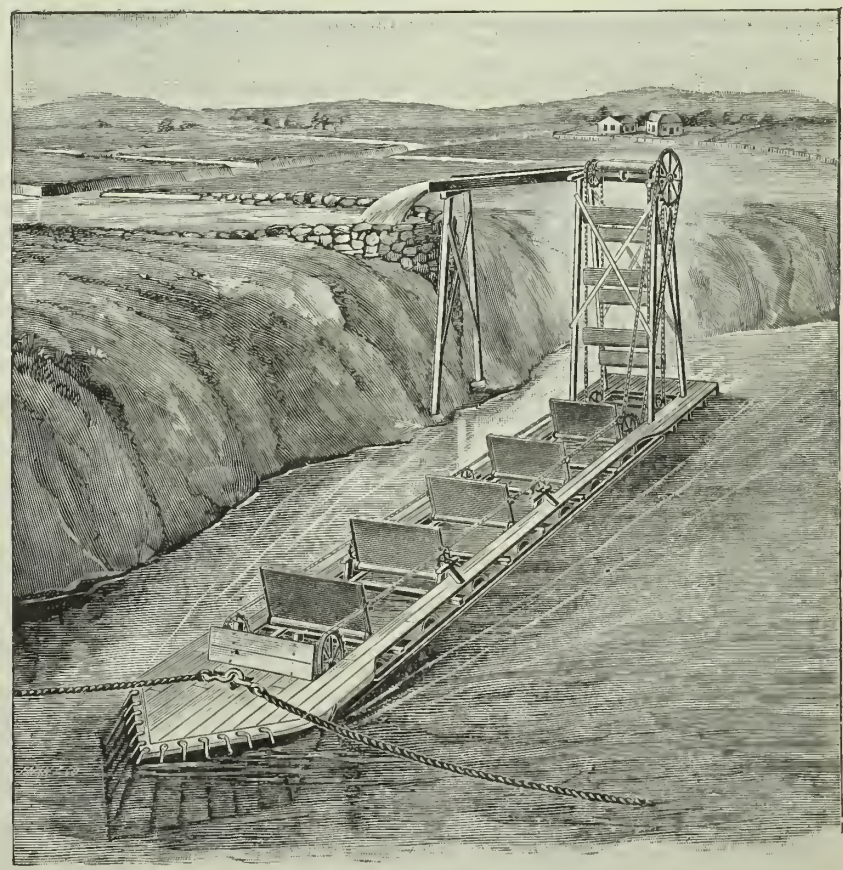
THE IRRIGATOR.

An Improved Current Motor.

The old style of current wheels are quite freely used in California to raise water from stream or ditch, so that it can be run to points quite distant, or water is lifted from the low bed of a stream, so that it can be run on adjacent land at a higher level. Some of these wheels are as much as eighteen feet in diameter and are ponderous affairs. An improved current wheel, which can be used either for pumping or as a motor for other uses, is shown in the accompanying engraving.

A current motor, it is claimed, can be used without a dam in any location in a river where the water is deep enough to admit it. There is almost no limit, the manufacturers claim, to the use to which the power generated by a current motor can be applied.

The motor herewith illustrated has been experimented with and tested and its practicability is fully believed in by its makers, the F. C. Austin Manufacturing Co. of Chicago, who claim that the only limit to its power and amount of water that can be pumped is the dimensions of the paddles, the number of them and the force of the current. The machine, which is represented as anchored in the river, consists of a pontoon carrying two endless chains, to which are pivotally attached at suitable distances reversible paddles, having floats at their upper ends that buoy them up in their course through the water. These paddles enter and leave the water in such a way as not to detract from the efficiency of the machinery, but calculated to rather add to it. To the wheels put in motion by these cables is attached an elevator carrying large buckets, which, when entering the water to fill themselves, it is claimed, add to the generation of power and are so arranged that when they reach the top of the elevator they discharge their contents with little friction into a trough, there to be conveyed to the shore, where a reservoir has been constructed to collect the water and distribute it through canals and lateral ditches.



A NEW CURRENT MOTOR.

THE HOME CIRCLE.

As You Go Through Life.

Don't look for the flaws as you go through
life;
And even when you find them
It is wise and kind to be somewhat blind,
And look for the virtue behind them.
For the cloudiest night has a tint of light
Somewhere in its shadows hiding;
It is better by far to look for a star,
Than the spots on the sun abiding.

The current of life runs ever away
To the bosom of God's great ocean;
Don't set your force 'gainst the river's
course
And think to alter its motion.
Don't waste a curse on the universe—
Remember it lived before you;
Don't butt at the storm with your puny form,
But bend and let it go o'er you.

The world will never adjust itself
To suit your whims to the letter;
Some things go wrong your whole life long,
And the sooner you know it the better.
It is folly to fight with the infinite,
And go under at last in the wrestle;
The wisest man shapes into God's plan
As water shapes into a vessel.

The Careful Messenger.

A pound of tea at one and three,
And a pot of raspberry jam,
Two new-laid eggs, and a dozen pegs,
And a pound of rashers of ham.

I'll say it over all the way,
And then I'm sure not to forget,
For if I chance to bring things wrong,
My mother gets in such a pet.

A pound of tea at one and three,
And a pot of raspberry jam,
Two new-laid eggs, a dozen pegs,
And pound of rashers of ham.

There, in the hay, the children play;
They're having such jolly fun;
I'll go there, too, that's what I'll do,
As soon as my errands are done.

A pound of tea at one and three,
A pot of—er—new-laid jam,
Two raspberry eggs, with a dozen pegs,
And a pound of rashers of ham.

There's Teddy White flying his kite;
He thinks himself grand, I declare;
I'd like to try to make it fly, up sky-high,
Ever so much higher
Than the old church spire,
And then—but there—

A pound of three and one at tea,
A pot of new-laid jam,
Two dozen eggs, some raspberry pegs,
And a pound of rashers of ham.

Now here's the shop, outside I'll stop,
And run my orders through again;
I haven't forgot, no, ne'er a jot—
It shows I'm pretty cute, that's plain.

A pound of three at one and tea,
A dozen of raspberry ham,
A pot of eggs, with a dozen pegs,
And a rasher of new-laid jam.

—Sunrise.

Blueberries.

Debbie and I were standing on Sunset Rock watching a forest fire on the side of old Shaunagunk. Debbie was crying.

A great tree she had been very fond of had burst into a red blaze, changed to pink ashes, and dropped out of sight as we gazed.

"I cannot bear to see it," she said, hiding her face on my shoulder.

"No matter, Debbie," I said. "There'll be plenty of blueberries next summer. You know there always is the year after these fires, and I'm as famous for eating blueberry pie as you are for making it."

But Debbie would not laugh.

"There are always enough blueberries," she said. "But I loved that tree—the tree we sat under when—"

"When I asked you to be my wife," said I. "And you said yes, otherwise I should not have made that remark about the blueberry pies."

But I liked the tree, too, for all that. Debbie took things of that sort very hard. She could not bear to see the flowers fade in autumn, or the grass grow brown. She often said that she believed the green things growing had souls.

She had been just like that ever since she was a baby, when she petted everything on the place. The calves, the lambs, the little piglets, even the old black hog in his sty came in for a share of her favor, though he was the most unlovable creature alive. And I remember that one Thanksgiving Day—the turkey that graced the feast had been her special favorite—she absented herself from the table, and was found, after a long search and much alarm, hiding in the garret.

"I can't touch him, mother," she confessed. "I can't. We have been too friendly."

"An odd child," the farmers' wives declared, and thanked Heaven their own had more plain comon sense and less imagination. But even then, to my fancy, Debbie Doane was the sweetest, prettiest creature alive. A slender, blue-eyed, fair-haird wisp of a child, as light on her feet as any bird. She knew all the birds in the woods, it seemed to me, and where they nested, and I never dared touch one. I had a boy's natural brutality, of course, but for Debbie's sake I kept it under, until it died a natural death with manhood, for we lived in that place among the mountains—Debbie and I—until she was eighteen and I one and twenty.

Our parents were friends, and I was an only child, while Debbie's little brothers—there were two or three of them, I believe—had passed away when they were babies. Our liking for each other pleased our mothers, and when one day I began to know that I did not love Debbie as a sister, I was sure that no one would disapprove; and up there under the tree we had just seen drop, we kissed each other for the first time as lovers kiss, and said those things to each other which only lovers say.

And so I had come to thinking of her as my future wife, and talking about her making blueberry pie for me.

But long before the blueberries sprang up over the ashes of the dead pines everything had changed.

Debbie's father was a hot-tempered man, and mine was an obstinate one. They got along wonderfully with each other for many years, and it seemed to be one of those especial bits of spite which Fate doles out to lovers, that they should have their first serious falling out directly after Debbie and I were engaged.

What was it about, you ask? Of all men on earth, farmers quarrel about the smallest things. The ill-feeling began about a bit of meadow land, worth next to nothing, was continued by our old pear tree, which projected its roots into Mr. Doane's cellar, and finished by one of Mr. Doane's cows, which tore down our corn; and one day the two elderly men faced each other, their faces crimson, their eyes blazing, blotting out the friendship of years, by their mutual taunts and reproaches, until at last Doane struck my father, and my father knocked him down. He fell with his head against a bit of wood, and cut it, and the blood flowed all over his face and neck. All the women screamed; Doane lay at length upon the grass, a gory spectacle. Mrs. Doane called one farm hand to help his master in, another to run for the doctor, and the general impression that a murder had been committed was conveyed. It was a matter for a bit of court-plaster, after all; but a lifelong friendship was over; and it was conceded on both sides that Debbie and I must break up with each other.

Up on the mountain, where the blueberries were to be next summer, we met for the last time. The ashes of the tree we had first kissed under were all blown away, and only a grim black stump remained to tell where it once stood. Debbie was pale, but very firm.

"It would be an insult to father if I should marry the son of a man who tried to kill him," she said; "and Mr. Ashton did try, Eben."

"My father only resented a blow, as any man ought," I said.

"But how furiously," said Debbie; "how brutally."

And then we quarreled, until at last we partad, going by different ways down the mountain, angry with each other as we had never thought to be.

The quarrel between the two families changed everything. My father shortly found it too unpleasant to live in such an unfriendly fashion, and resolved to move to the West. My mother felt as glad to go as he. As for me, to pass Debbie in the road without speaking had become unendurable. We left the place, and in the Western town that grew like a mushroom on the spot that was little more than a wilderness when we settled there, I made my fortune in a business which was the outgrowth of my surroundings. With the best luck it takes some time to make a fortune, and by the time I was really rich I had come to forty years, and passed it.

My parents were both dead, and I had not married. I had tried to fall in love, but could not; and, if you will not think me a puppy, I will tell you that, being a pecuniary "catch," I was rather persecuted. Anxious parents with fine families of grown daughters flung them at my head, and the girls themselves were not behindhand. If I could have believed that my personal qualities made me appear in the light of a prize, I should have felt flattered and might have succumbed but I knew my money was the bait which all those pretty fish were anxious to nibble, and I resolved to leave the place for a while. The wealth that seemed so great from a local point of view was not an unusual amount of money in New York, where millionaires had grown common, and I found the great metropolis pleasant, and made friends there. Among them I soon numbered an old bachelor of literary tastes, who told me that he had taken a fancy to me. He proved it by being very confidential. "You are twenty years younger that I," he said, "but still your of an age when men are usually married. Perhaps you can comprehend how you might go on for twenty years more, and never find a woman who seemed exactly what you wanted?"

"Perfectly," said I.

"Now, I've had women set their caps for me," said he. "Handsome women, too. Perhaps you don't believe it?"

"Indeed, I do," said I, out of my own experience.

"Ah, you've been there; you've been there," said Mr. Groton. "Well, I could not respond. My fault; not theirs. But lately I've met a woman who actually does move me, but I have my doubts. I'm afraid I shan't be happy. She's a blue stocking.

"Ah!" said I, not knowing what else to remark."

"I'm afraid of blue-stockings," said Mr. Groton. "They are usually bad housekeepers, I am told, and they don't look up to one. I wish to be looked up to. But I have great faith in you. She's to be at Mrs. Parker's on Wednesday evening. I'll ask to bring you. And you could do what I can't—put leading questions; discover what her domestic qualities are—she suspects me; I—I daren't—and give me your opinion. There is a widow, very handsome—Mrs. Cromlick — that may be more suitable. But there's a charm about my blue-stocking. She doesn't write very masculine books; they are about birds and squirrels, and bees and flowers — children's books. But still you'll oblige a friend. If you approve, I'll see her home and offer myself on the way; if not, I'll ask to be the widow's escort and propose to her. I can't waste time at my age, and I want to settle down. Cross-question her, pray."

I promised and on Wednesday evening entered Mrs. Parker's parlors.

"There she sits at the table whispered the bachelor. "Pretty shoulders, eh?"

I nodded, for Mrs. Parker advanced, and there was no time for words. I was introduced.

"I want him to know your literary friend. As a stranger he ought to know our shining lights," said Mr. Groton, with great cunning.

"Delighted!" said Mrs. Parker. "Mr. Ashton, this way please. Miss Doane, Mr. Ashton desires an introduction. Of course you have read all Miss Deborah Doane's works. What my children would do without them I cannot say. They are an education by themselves."

"Debbie turned authoress!" I thought. It could not be. Yet Miss Deborah Doane! Was it a coincidence?

It was not, for the lady turned as her hostess spoke to Debbie—Debbie still more elegant if not quite so pretty.

She knew me at a glance, and as I held her hand all my old love awoke fresh in my heart. And there stood Mr. Groton listening, and Mrs. Parker and children, and what could I say to her? I did not remark, "I have had that pleasure," nor did she. We sat and talked to each other before an audience until supper-time. Then old Groton whispered to me, "Take her down." And I did. And still my audience was large and attentive.

I had discovered that she, like myself, was alone in the world. I saw that she was ready to meet me halfway. Yet the hour of parting approached, and if old Groton took her home, proposed to her and was accepted, all was over. And yet, while strangers listened to my words, what could I utter to show her my intentions? This is what I did say:

"As you write about such things, Miss Doane, did you ever take notice of the fact that the year after a forest fire blueberries are very plenty on the Shaunagunko muntains?"

"Oh, yes," she replied. "I go to the Shaunagunk every summer, and I made that discovery long ago."

"And you have not only made discoveries, but pies?" I remarked.

"Many," she answered.

"Oh! do you make pies? I thought authoresses never could cook," cried one of our audience.

"A lady once promised to make blueberry pies for me," said I. "It was while a forest fire was burning; but she never kept her promise. If you go to Shaunagunk next summer, I shall call at your camp, and ask you to make a pie for me."

"I do not camp out, but you will find me at a little farmhouse near-by," said Debbie, "and I will make all the pies you want."

"It is a solemn promise," I said.

She gave me her hand.

"I think the blueberries will be thick on Shaunagunk next summer, for the fires were fierce this autumn," she said. "Good night."

But I knew she would not accept old Groton if he proposed; and, besides, I took pains to whisper to him, in the dressing-room:

"The widow is the woman for you."

He married her, but Debbie is making a blueberry pie for me at this moment, and the berries were picked on old Shaunagunk.—Selected.

Pillows.

One cannot have too many pillows for the couch, the porch and to throw into uncomfortable chairs. One of the drawbacks usually to having a quantity is that the material for filling them is expensive, if one uses feathers or down, but there are several substitutes. Lots of people use cotton batting and hair, and I read the other day of a filling that anyone living in the country could obtain with no expense and very little trouble. This filling is obtained from the catkin, or cat-tails, as the boys call them. These should be gathered when they are ripe, that is, when they have turned a deep brown, pulled carefully apart and put at once into the pillow cases. The case should be filled quite full, and when sewed up they should be beaten and kneaded, to effectually loosen and separate the down. Such pillows are said to keep in good condition for a long time, and are almost as soft and light as down. A good stout piece of unbleached muslin makes an excellent substitute for the ticking.

Pretty covers may be made of bright ginghams, cretonnes, denims embroidered in white cotton in a large scroll pattern, all with full ruffles. Very pretty, dainty covers are made now of white or brown linen, and white lawn with the ruffle hemstitched or hemmed and feather-stitched. A pretty brown linen cover had a nasturtium pattern embroidered on it, another bunches of violets. A white one seen had bunches of pink clover blossoms, another sweet peas and another carnations. Hornton medallion braids are very much used in combination with the embroidered floral designs. To change the subject from pillow covers, I saw the prettiest, daintiest dressing scarf and cushion the

other day. It was made of fine white-striped dimity with a full ruffle hemmed and embroidered in feather-stitch on the end. Then there were wreaths of forget-me-nots scattered over the cover. The cushion was a long blue silk one with a lace ruffle, the cover of dimity embroidered in tiny wreaths of forget-me-nots. This set was on a light-blue enameled dressing table with an oval mirror. It was the daintiest, prettiest table altogether I have seen for a long time. I suppose it would not cost so much to have a table made and paint it one's self first with common blue paint and then a couple of coats of the enamel paint. A pretty way to fix up an old washstand is to have a board made for the top, usually larger than the top of the washstand, and then tack a ruffle of cretonne to this to reach to the bottom of the stand. With a white cover on top of the board this looks very pretty.—*X.*

The Passing of Decorative Fads.

In decorative fads we have happily outlived the use of bamboo portieres, the Japanese fan and the everlasting tidy. Bamboo portieres were only an oddity of the moment, not sufficiently beautiful to justify their permanent use; they were flimsy in construction, and were neither a curtain nor a decoration. The Japanese fan was altogether too flimsy an article to afford lasting pleasure, and the tidy, born of the age of black haircloth upholstery, has happily disappeared with that sleazy material. There is no objection to the use of a beautifully embroidered doily for the dinner-table, with an embroidered square for the epergne or table-lamp, but the use of the tidy as a device to save the wear of upholstery savors too much of the furniture-wrapper, which has long been used to deform whatever beauty the furniture possessed in the way of upholstery. Many women, through their love of dress, have the instinct to hide everything under a cloth, and cover the mantel with lambrequins and the carpet with crash, and the piano with a decorative jacket, as if it were made of pine boards and unfit to be exhibited. Let us hope that the day of spreads, mats, lambrequins, scarfs and tidies, that make rooms look stuffy and uninviting, is gone forever.

Both pictures and furniture should fall back flat against the wall as much as possible, leaving the greatest possible amount of space in the center of the room, so that the individuals who dwell in the apartment will be the real decoration, the furniture and minor furnishings forming a necessary, agreeable and artistic background. Every apartment should convey the feeling of use, rather than the idea that it is a room for the exhibition of furniture.

A California Swimming Party.

Last week Mrs. J. C. Zuck entertained a number of her lady friends with a swimming party at her home at Old Gilroy. The affair was given in honor of Miss Kittie Riddell, and it was most pleasant and enjoyable. Prior to the aquatic features the following programme was rendered in the parlor, which was simply but charmingly decorated for the occasion by Miss Riddell, who is an adept in the art of decorating: Vocal solo, Miss Bertie Benn; quartet, Misses Irene Hankenson, Lillian Rhinehart, Georgie Cobb and Lida Lennon; instrumental solo, Miss Georgie Willey; recitation, Mrs. V. E. Burrows; vocal solo, Miss Irene Hankerson; vocal solo, Miss Lillian Rhinehart. Upon conclusion of the programme bathing suits were donned and all repaired to the swimming pond which is located at the rear of the house and is a splendid body of water for a frolic. It is about fifty feet long and twenty feet wide, with cement sides and bottom, which slopes gradually from two feet of water to seven feet. Those who could not swim were at the mercy of those who could, and the spectators were greatly amused by the antics of those in the water and also by the variety of the styles of bathing costumes. Refreshments were served after the mermaids had changed their costumes and all enjoyed the repast. It was a most pleasant entertainment and Mrs. Zuck was highly complimented for the novelty of the affair.

Chaff.

An Indian definition of a bicycle rider is a "heap lazy man who sits down when he walks."

"Fed the cattle yit, Mary?" asked the farmer. "Most on 'em," replied Mary. "Your breakfast'll be ready in about five minutes."

"Do you think that it is ladylike for a woman to ride a bicycle?" she inquired. "Yes," he replied, "unless she insists on riding like a gentleman."

"Annual bargain sale now going on; don't go to any place else to be cheated," is the rather dubious manner in which a New York furniture dealer worded his announcement.

A man who stuttered badly went to consult a specialist about his affliction. The expert asked, "Do you stutter all the time?" "N-n-n-no," replied the sufferer, "I s-s-stut-t-t-t-ter only when I t-t-t-talk."

Old Longnecker (severely)—Young man, do you love your neighbor as yourself? Young Tutgall (enthusiastically)—You bet! And, say, you just ought to see her—curly hair, dimples in her cheeks and not a day over nineteen!

Timkins—Supposing you were on an isle, Miss Timbers, all alone, what would you do? Miss Timbers—Well, if it were a church aisle and the bridegroom waited at the other end, I should endeavor to press steadily forward.

Lulu—You should get him to sign the pledge before you marry him. Bobs—Why, he doesn't drink. Lulu—No, but he may be tempted to later.

He—Don't you ever tire of talking? She (quickly)—It depends upon who is talking.

"Weren't you surprised when he proposed?" "No; why should I be?" "Everybody else was."

Fair Patient—Is there no way of telling exactly what is the matter with me? Dr. Emdee—Only a post mortem examination would reveal that. Fair Patient—Then, for heaven's sake, make one. I don't see why I should be squeamish at such a time as this.

"Well, girls, Jack and I are to be married at last, and we are so happy!" "Did you and Jack have some trouble in getting your father's consent?" "No, but papa and I had a lot of trouble in getting Jack's consent."

"How did you and mamma come to get married, anyhow?" asked Johnnie Chaffie of his father. "Ask your mamma; she knows more about it than I do," was the reply.

"Those Chicago women seem to be infected with the matrimonial fever." "Hardly a fever. Rather fever and ague. They shake husbands as soon as they get them."

"That's what I call an up-to-date woman," said the livery stable keeper. "Why?" "She wanted a horse that a man could drive."

Mildred—Those Philadelphia men are too slow about kissing a girl. Myrtle—Yes, I know. But they are also slow about quitting after they have begun."

Mother—Now, Susie, take care. If you make the same mistake again, I'll punish you. Susie—Well, mamma, I'll try—booh—oo-oo—to make a different one next time.

The Farmer's Wife.

Too much has been written about the "overworked farmer's wife." Such articles may help to open the eyes of some thoughtless husbands, but they also serve to frighten some city wives, whose husbands would like to live on a farm, if only the wife were willing. I remember that, when my husband first told me that he would like to live on a farm, I thought it grounds for a divorce and told him so. All I knew of farm life was what I had read, and all I could seem to remember of that was that the farmer's wife worked from morning until night, day in and day out; that she never could go anywhere; or, if by any possible chance she could, she never had anything fit to wear. Now I know that there are farmers' wives who just enjoy themselves, and who have far more of the comforts of life than most city wives. If there are others who have to work too hard, let us not tell or write of it, but, like the skeleton, shut it in the closet that it may not frighten others, for the man who would thoughtlessly overwork his wife in the country would let her starve in the city.—M. T. in Rural New Yorker.

DOMESTIC ECONOMY.

Recipes.

Fried Cucumbers.—Peel and slice lengthwise and sprinkle with salt and pepper. Dip in lightly beaten egg, roll in flour and fry quickly in very hot grease, placing only a few at a time in the frying pan. Serve hot. They have much the taste of fried oysters.

Cake Without Eggs.—One coffee cup of sugar—powdered—two large tablespoonfuls of butter ruffed into the sugar, one and a half cups of flour, one-half cup of sweet cream, one-half teaspoonful of soda. Bake quickly in small tins, and eat while fresh and warm.

Roasted Oysters.—Toast some slices of bread. Cut each slice into diamond shape and butter it. Arrange slices upon a platter and set it where it will keep warm. Put the juice of a quart of large oysters in a stew pan and let it come to a boil, then skim it and add two tablespoonfuls of butter and oysters. When the oysters are shriveled season to taste, and pour over toast and serve.

Strawberry Whipped Cream.—Rub two pounds and a half of strawberries through a sieve, and add half a pound of powdered sugar and one quart of whipped cream. Place a layer of macaroons or any small sweet biscuit in a dish, add a layer of biscuit, and continue alternately until the cream is used up. Set aside in a very cold place, or on ice, and serve in the dish in which it is prepared.

Lemon Filling.—Take one large, fair lemon, one cup of white sugar, half a cup of water, one egg, one teaspoonful of corn flour, the same of butter. Grate the rind of the lemon and put it in a saucepan with the juice, the water, sugar, beaten egg, butter and the corn flour rubbed smooth in a little water. Boil them all together until the mixture begins to thicken slightly. When it is cold spread it between the layers of the cake.

Ice Pineapple.—One can of grated or chopped pineapple, one pint of sugar, one quart of cold water, one teaspoonful of gelatine. Soak the gelatine in one-fourth of a cup of cold water, add one-half cup of boiling water and strain into pineapple and sugar. Stir until sugar is dissolved. Pour into the freezer. For packing the freezer pound ice fine. Take five measures of ice, three of rock salt, then three of ice, one of salt, etc. The faster the crank is turned the finer the ice will be.

Crabs a la Creole.—Peel and chop fine one small onion; open one green pepper, remove the seeds and mince; fry with the onion in one tablespoonful of butter, cooking very slowly for five minutes; then add three small tomatoes which have been skinned and chopped after removing the seeds; cook for a moment, add one-half of a cupful of chicken broth and four soft-shelled crabs which have been cleaned and cut in two. Season to taste with celery salt and simmer ten minutes longer.

Velvet Sponge Cake.—Yolks of six eggs and the whites of three, two teacupfuls of granulated sugar, one teacupful of boiling water, two and one-half teacupfuls of sifted flour, one tablespoonful of baking powder. Beat the yolks of eggs and sugar until very light; then add the well-beaten whites; add slowly the boiling water, stirring all the time; then add the flour with the baking powder sifted into it; season with the juice and grated rind of a lemon; bake in a rather hot oven, that is to say, hotter than is usual in baking cakes.

Deviled Crabs.—Boil twelve nice, heavy crabs for thirty minutes; take up and drain; break off all the claws; separate the shells, remove the spongy fingers and the stomach, which is found under the head; pick out all the meat; put half a pint of cream on to boil; rub two rounding tablespoonfuls of flour and one of butter to a smooth paste, add to the boiling cream, stir and cook for two minutes. Take from the fire; add the yolks of four hard-boiled eggs mashed fine, a tablespoonful of chopped parsley, a quarter of grated nutmeg, and a palatable seasoning of salt and cayenne. Mix all well together and then carefully stir in the crab meat. Clean the shells of the crabs, fill them with the mixture, brush over with beaten egg, cover with bread crumbs, put them in frying basket and plunge into smoking hot fat till a nice brown. In brushing the crabs with egg be careful to cover well all places where the crab meat and shell come together. Cover quickly with crumbs; this prevents the fat from running into the under part of the shell.

A Bottomless Meat Pie.

Mrs. Rorer, the lecturer, does not approve of pie, but nevertheless she tells us how to make some good ones. In a recent lecture, she said: "What people want with pies I can't understand. America is the only country where pies are made. The Germans even have no word for pie, and no other nation except the American could eat pie and live.

"However, we will make a regular English meat pie, with no bottom crust. Cut one joint of cold meat into one-inch blocks and two large potatoes into dice. Have measured a tablespoonful of salt, a quarter teaspoonful of pepper, the same of celery seed and a teaspoonful of onion juice. Put a layer of meat into a rather deep pie-pan, then one of potatoes, and distribute some of the parsley, pepper, salt and celery seed through the layers. Build the pie up in this way until all the ingredients are used.

"Put a teaspoonful of butter over the top, add a half pint of stock, put on your top crust, which must be rolled out rather thin, and have an opening in the top so that the steam can escape. Glaze this with egg, to which a teaspoonful of warm water has been added, and it will give your pie that rich brown color which all meat pies should have. This is a delicious dish for luncheon."

Vegetable "Beef Tea."

One of the vegetarian journals, in giving the following recipe for "vegetarian beef tea," declares the ordinary beef tea to be a concoction of hot water, delusion and stimulant, whereas the vegetarian liquid consists of hot water, reality and nourishment. To make the latter, half a pound of haricot beans should be washed and put to stew in an earthenware jar containing a quart of hot water. Half a small onion should be added and the ingredients should simmer steadily for three hours, when about a pint and a half of liquid should remain. The mealy part of the beans must not be allowed to break into the liquid, and the beans must be strained off when the mixture is removed from the fire. The remaining half of the small onion should then be sliced and fried with an ounce of butter and sprinkled with pepper and salt. The slices, when browned, should be added to the broth, which must then be strained again. This beverage is savory, and is declared to be "vastly superior in sustaining properties" to the beef tea made from butcher's meat.

Pretty Skirts, Frocks and Basque.

FOR TRAVELING OR PLAY.

982.—Prinette Frock.

Sizes for 8 to 10 Years.

This neat and trim little suit is made of dark blue serge of light weight. The skirt is gored in front and on the sides, and has a straight width in the back. Several rows of soutache braid head the hem. There is a full blouse waist of serge, and another of batiste, to adapt the suit to varying temperatures; and the belt of the skirt should button to the blouse, which falls over it. The blazer is fitted with the usual seams in the back and the revers, cuffs and pocket-laps are faced with batiste and trimmed with the braid.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

FOR SUMMER AFTERNOONS.

980—Giulia Waist.

Sizes for 12 and 14 Years.

This charmingly simple frock, the "Giulia" waist, and "Doris" skirt combined, make an attractive model for summer gowns of India silk, challie, organdy, or lawn, trimmed with lace and embroidery. Our model is of India silk, trimmed with batiste embroidery. The waist is fulled over a fitted lining, and the broad collar may be made detachable, so that it can be varied with others of lace or embroidery. The full puff sleeve may be made elbow length, if desired, but the pattern is given for a full length sleeve.

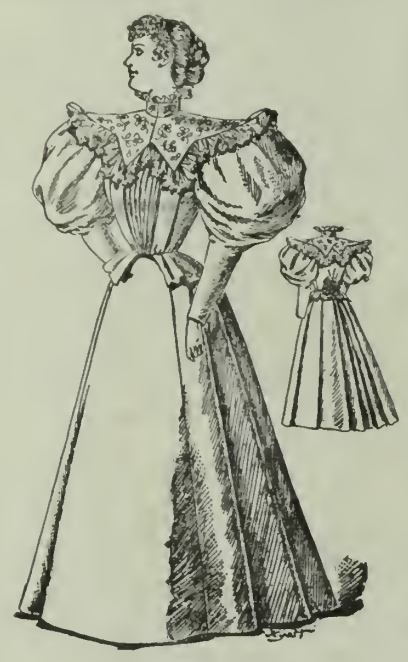
A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

823—Doris Skirt.

Sizes for 12, 14 and 16 Years.

An extremely graceful design, having six gored breadths, flaring widely at the foot and fitting easily around the waist except in the back, where the fullness is gathered. It may be lined throughout, but should have no interlining or facing. Any of the popular silk, woolen, or cotton fabrics may be chosen for this model, and it may be worn with any style of coat, basque, or waist.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.



A SUMMER FANCY.

978—Sonja Basque.

Sizes for 34, 36, 39 and 40 Inches Bust Measure.

A charming model, the "Sonja" basque and "Inglehart" skirt, combined, suitable for general or more dressy wear, according to trimming and material selected. Our illustration is of dark blue canvas, the sleeves matching the skirt, and the waist of white satin veiled with striped gauze, put on with slight fullness, and opening in the front over a vest of plaited chiffon. The shoulder collar is of Venetian point, bordered with plaited chiffon. A full frill of the striped gauze surrounds the waist. The stock collar matches the deep one, and plaitings of chiffon finish the wrists.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

957—Inglehart Skirt.

Sizes Medium and Large.

A popular design having seven gored breadths and measuring about six yards around the bottom. It fits trimly around the waist, but additional fullness is added below the hips in plaits, on the side seams. The fullness in the back is laid in side plaits turned toward the center. The popular finish for the bottom of the skirts is a ten or twelve-inch facing of haircloth, crinoline or canvas, and velveteen binding. Silk, woolen or cotton fabrics may be used for the model, and it may be worn with any style of coat, basque or waist.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

FOR SMALL GIRLS.

984—Nydia Frock.

Sizes for 2 and 4 Years.

Lawns, cambrics, Chamberies and fine ginghams are all suitable fabrics to make by this attractive model. The unique feature of the frock is the Empire fullness given in front by extending the full skirt to the yoke line. There is a plain, short waist, to the bottom of which the skirt is sewed in the back and on the sides, and as it extends across the front it holds the fullness in place. The shoulder ruffle and cuffs are trimmed with insertion and a narrow frill of embroidery. The edge of the skirt is always a plain hem, but this may be headed by tucks and insertion when desired.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

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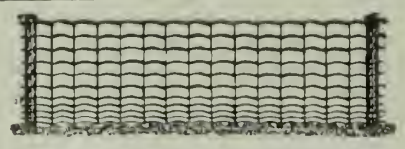

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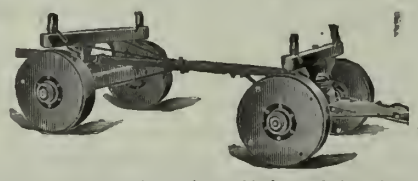

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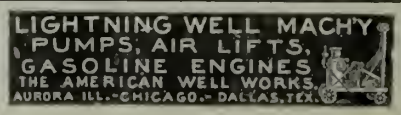

Turning Trees Into Newspapers.

An interesting experiment was recently made at Menzel & Co.'s paper and wood pulp manufactory at Elsenthal to ascertain what was the shortest space of time in which it was possible to convert the wood of a standing tree into paper, and the latter into a journal ready for delivery.

Three trees were felled in a forest near the establishment at thirty-five minutes past 7 A. M., in the presence of two of the owners of the manufactory and a notary whom they had called upon to certify as to the authenticity of the experiment. These trees were carried to the manufactory, where they were cut into pieces 12 inches in length, which were then decorticated and split. The wood thus prepared was afterward raised by an elevator to the five defibrators of the works. The wood pulp produced by these machines was then put into a vat, where it was mixed with the necessary materials. This process finished, the liquid pulp was sent to the paper machine. At thirty-four minutes past 9 in the morning the first sheet of paper was finished. The entire manufacture had thus consumed but one hour and fifty-nine minutes.

The owners of the manufactory, accompanied by the notary, then took a few of the sheets to a printing office situated at a distance of about two and a half miles from the works. At 10 o'clock a copy of the printed journal was in the hands of the party; so that it had taken two hours and twenty-five minutes to convert the wood of a standing tree into a journal ready for delivery.

During the course of the manufacture there occurred a few interruptions which might be avoided at another time, and that, in the opinion of the two manufacturers, had it not been for this twenty minutes might have been gained.

MOUNTAIN RANGES are mere wrinkles on the surface of the earth. Scientifically, we measure these wrinkles by finding out how high they are above the sea level. There are two classes of mountains—the table and the folded mountains. As to the individual points or peaks, which are the highest, they are of two classes—those which are volcanic and those which have defied weathering or denudation. When the country was raised above the sea there was a natural slope toward the oceans, and the water from the melted snows or the rivers cut through the land. The water shed then was plowed by these streams. There used to be held, in accordance with the Murchison idea, the general theory that mountains were mainly due to cracks which took place in the earth's surface in remote periods, but this idea is no longer entertained. As to form of mountain, the one known as table mountain finds the best example at the Cape of Good Hope. It is believed that this mountain is due, not to upheaval, but to the sinking of the surrounding districts. Why these peculiarly defined areas did not sink is based on the theory that the ground under them cooled before the rest of the section, and so the table mountain had an earlier foundation, and has long retained its place. There always would be denudation, however, but proportionate with its surroundings, and so, being higher at the start, it still keeps to its approximate elevation.

ALL fruits with skins on should be washed and peeled before eating—especially fruits exposed on the streets, and where dust and flies can have access to them. Few are aware of the danger of food contamination by flies. They are great scavengers and are not at all choice as to what they eat, nor where they step. They pass at one bound from an infectious carcass, a foul ulcer, or a mass of diseased sputum or reeking filth to the apple, pear or peach, and, with dirty feet and dirty proboscis, run over it and contaminate it. Hence, all such fruit should be first washed and dried and then pared, if possible.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING AUGUST 4, 1896.

565,151.—GRAVEL WASHER—T. G. Barlow-Massicks, Phœnix, A. T.
565,152.—AMALGAMATOR—T G. Barlow-Massicks, Phœnix, A. T.
565,132.—DREDGER—A. B. Bowers, S. F.
565,378.—WHEEL—E. S. Cobb, S. F.
565,201.—VEHICLE—J. C. F. Dick, Kenwood, Cal.
565,202.—DISTRICT ALARM—F. Drake, S. F.
565,338.—GUARD RAIL—J. W. Ernest, Los Angeles, Cal.
565,339.—FOLDING TABLE—J. W. Ernest, Los Angeles, Cal.
565,264.—CARPET SEWING MACHINE—H. Eschweiler, S. F.
565,203.—ADJUSTABLE SHADE—A. F. Espersen, Tacoma, Wash.
565,340.—STEAM COOKER—Finley & Wilson, Silverton, Ogn.
565,138.—REGULATION OF POWER—H. B. Gale, S. F.
565,162.—KEY-OPENING CAN—W. H. Gilbert, Oakland, Cal.
565,351.—REFRIGERATOR CAR—C. S. Hardy, San Diego, Cal.
565,168.—SASH FASTENER—F. E. Jarvis, Oakland, Cal.
565,358.—TARGET METER—R. F. Langer, S. F.
565,288.—SAW TOOTH—J. R. Luce, Everett, Wash.
565,175.—ICE PALACE—C. F. McGlashan, Truckee, Cal.
565,176.—PULVERIZING MILL—Thos. McGlew, S. F.
565,416.—WATER FILTER—C. C. Moore, S. F.
565,173.—VALVE FOR SIPHON BOTTLES—F. E. Morrill, S. F.
565,231.—CHAIR SEAT—F. Ring, Portland, Ogn.
565,181.—POTATO DIGGER—T. E. Sadler, Reno, Nev.
565,145.—SIGNATURE GATHERER—D. M. Smyth, Pasadena, Cal.
565,146.—SIGNATURE GATHERER—D. M. Smyth, Pasadena, Cal.
565,395.—VIOLIN BOW—E. O. Spitzner, Portland, Ogn.
565,241.—CLUTCH PULLEY—J. N. Starr, Snohomish, Wash.
565,192.—SHADE AWNING—C. J. Waterhouse, S. F.
25,858.—DESIGN FOR INHALER—C. W. McKee, Phœnix, A. T.
25,852.—DESIGN FOR SPOON—A. F. Shriver, Newcastle, Cal.

NOTE.—Copies of U. S. and Foreign patents furnished by Dewey & Co. in the shortest time possible by mail or telegraphic order). American and Foreign patents obtained, and general patent business for Pacific Coast inventors transacted with perfect security, at reasonable rates, and in the shortest possible time.

WHEN a very small meteorite enters our atmosphere it becomes incandescent and is visible for a short time as it moves along its path, constituting what is called a shooting star. When the meteorite is larger and when it becomes involved in a denser portion of the atmosphere, it presents the appearance of a brilliant planet; it is frequently followed by a train of greater or less extent, and oftentimes it explodes with more or less violence; it is then called a fire ball. When the meteorite is still larger it frequently escapes destruction in the atmosphere and falls to the earth, either as a unit, or, after one or more explosions, in fragmentary portions; the masses that reach the earth are called aerolites.

THE following recipe has been found specially effective in stubborn cases of rheumatism: One new egg well beaten, half a pint of vinegar, on ounce of spirits of turpentine, half an ounce of camphor. These ingredients must first be beaten together thoroughly, then put in a bottle and shaken for ten minutes, after which it should be corked tightly to keep out the air. In half an hour it will be ready for use. It should be applied three or four times a day, and for rheumatism in the head it should be rubbed on the back of the neck and behind the ears. It will keep for an indefinite time, and, in fact, is rather improved by age.

ACONCAGUA, the highest peak on the Western hemisphere, is to be attempted again next month by E. A. Fitzgerald, who explored the New Zealand Alps. If he succeeds in getting to the top, which is 23,200 feet above sea level, he will beat the highest mountain-climbing record—W. M. Conway's 22,600 feet ascent of Pioneer peak in the Himalayas. Dr. Gussfeldt has tried Aconcagua, but got into trouble with his guides and had to turn back 2000 feet from the summit. Mr. Fitzgerald will have in his party the Swiss guide Zurbriggen, who accompanied him in New Zealand and was with Conway in the Himalayas.

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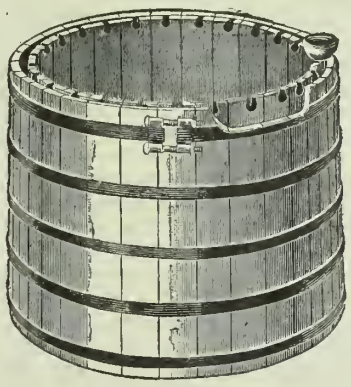

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Why Have We no Great Writers?

In a brilliant paper in the *Atlantic* Prof. Paul Shorey of Chicago University discusses the present conditions of literary production, or rather the reasons there are to believe that the world's genius for producing creative literature is, for the present a least, exhausted. But the essay is not a mere piece of special pleading. We are first confronted with the facts of the situation, the certain absence of any great poet or philosopher, and the probable inferiority of the living novelists to those of the preceding generation. Not that our present race lacks talent; that is one of Prof. Shorey's strongest points. "Greek epic," he says, "perished not merely because the development of Greek civilization had created an environment unfavorable to that species of art, but because the epic ideal of life and the epic form of poetry had yielded all their fruits, because there had been so many and such excellent epics that even in that early day—

'The love of letters overdone
Had swampt the sacred poets with themselves'."

So also with Greek tragedy; so it has been with modern poetry, and is it not also so with modern novels? Subjects are exhausted; the charm of novelty is gone. A talent equal to Thackeray's could not now do Thackeray's work and win his fame, because that work has been done already. There is no patent for the invention, however originally contrived, that happens to have been invented previously. A new idea, or art, is something like a vein—let us stay—of natural gas. Formed mysteriously below the earth, it lies, an imprisoned Titan, until some lucky hand chances to unloose it. Others may come afterward and tap it and surround themselves with its brilliance. But unto the first is glory and unto the second honor; and the last draw only common air.

In poetry we have surely reached the third stage, while the light of our prose fiction is beginning sensibly to wane. In poetry, "the majority undertake to gild the refined gold and paint the lily of the diction of Tennyson and Keats, or strive with Sidney Lanier after more curiously complicated harmonies than Swinburne has achieved." In prose, the polished criticism of Arnold becomes grotesque rococo in the hands of Walter Pater. In fiction, there is something of the same mad striving for effect. But let us not linger over the picture. Changes come quickly nowadays, and who can tell in how few years the point of view may shift a whole circumference? A great poet usually comes, among a vigorous people, just when there is every reason to believe that great poetry is extinct.

SCARCELY a day passes that many persons do not, in some way or other, get a scratch, a small cut, or a bruise that may break the skin. In most instances not the slightest attention is paid to this beyond the temporary annoyance of the pain and the possible irritation when the hands are put into water, or some subsequent blow in the same spot brings an exclamation on account of the hurt. This, while a common practice, is by no means a wise one. The air is full of floating disease-germs, especially the air of cities and towns, and an injury of this sort, be it ever so slight, might furnish excellent breeding-ground for some deadly bacteria. It is a good plan always to keep a bottle of prepared carbolic acid and glycerine, and frequently touch all bruises or sore spots with it. This is one of the most convenient and effective germicides imaginable. It is said by excellent medical authority that the use of this preparation would prevent half of the contagious diseases that afflict the country. It is believed that many cases of fever and other serious ailments can be contracted by a floating germ coming in contact with the abraded skin. Once snugly lodged in this most congenial dwelling-place, the germ multiplies with amazing rapidity and soon overruns the entire system. Therefore, whenever there is a bruise or scratch, or any injury of this sort, germicidal applications should be at once resorted to.

International Boundary Line.

From the north comes an unlikely statement that errors had been discovered in the running of the forty-ninth parallel, which, if corrected, would throw the mining district of Rossland, B. C., into the United States. Such an error is not probable.

In establishing an international boundary line, it is usual for each Government to be represented by competent engineers, and for the line to be run by astronomical observation. Straight lines on parallels of latitude are determined by observation of the stars, usually the Pole star. If the axis of the earth were strictly in the direction of this star it would be a simple matter to carry along this angle, for at every point in this parallel line the angle made by the earth's horizon with the extended axis of the earth must be the same. But the axis of the earth projected does not point directly to the Pole star, but it has a slight variation, and twice each day the axis of the earth is in a line with the star in the daily revolution of the earth. These variations are computed by astronomers for the use of surveyors. If a transit line is run, taking a right angle with the due north line, the tendency is to run off towards the equator, because the parallel line is a circle, and each point in this circle is not an exact right angle with the line towards the pole. In order to arrest this tendency to go too far southward geographers have calculated a table of offsets for each chain, mile, or other distance, and this correction is made as frequently as necessary. This, together with the astronomical observation, makes it practically impossible that any serious error should creep in. In the United States Government surveys the solar compass is used, and by a reflection of the sun's image on the horizon of the instrument the latitude is established at all times.

There have been numerous alleged discoveries of errors in the international boundary. A few years ago it was stated that a strip of land in Whatcom county, Wash., belonged to British Columbia. No attention was paid to the matter by either Government, both being satisfied that when a line was run and the reports accepted the line was there to stay.

Deafness Cannot be Cured

by local applications, as they cannot reach the diseased portion of the ear. There is only one way to cure deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian Tube. When this tube is inflamed you have a rumbling sound or imperfect hearing, and when it is entirely closed Deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever. Nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

We will give One Hundred Dollars for any case of Deafness (caused by catarrh) that cannot be cured by Hall's Catarrh Cure. Send for circular; free. F. J. CHEYNEY & CO., Toledo, O.

☞Sold by Druggists, 76c.

—The Government will not allow lumber to be shipped out of Alaska, but there are a number of mills in the field for the local trade. Most of the large canneries and mining companies own mills. The newest mill is that of LaDue & Harper, near Circle City, which, with the exception of one at Fort Cudaby, enjoys the honor of being farther north than any other sawmill in North America. Common lumber is worth from $60 to $100 at the mills. The most interesting mill is that of Rev. William Duncan at New Metlahkahtla, which is operated entirely by an Indian crew. The mill can cut about 25,000 feet per day for local purposes, and furnishes power for an electric-light system also operated by the natives.

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Six lines or less in this directory at 50c per line per month.

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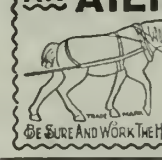

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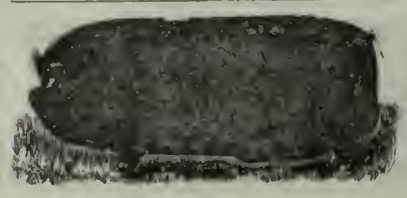

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PACIFIC RURAL PRESS, 220 Market St., S. F.

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Aug. 19, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	174,091	916,989	452,252
Wheat, ctls	224,391	861,517	1,136,028
Barley, ctls	198,794	839,505	614,710
Oats, ctls	9,840	55,602	55,397
Corn, ctls	7,882	25,339	8,741
Rye, ctls	560	4,130	4,054
Beans, sks	8,165	31,636	16,742
Potatoes, sks	26,611	119,425	125,047
Onions, sks	4,311	22,124	18,750
Hay, tons	4,846	25,197	27,838
Wool, bales	811	7,542	9,831
Hops, bales	31	179	220

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	107,576	752,104	282,040
Wheat, ctls	140,754	728,527	1,548,274
Barley, ctls	60,675	594,578	357,919
Oats, ctls	568	5,333	3,393
Corn, ctls	310	2,654	3,168
Beans, sks	295	13,218	36,260
Hay, bales	51	3,513	4,572
Wool, lbs	....	1,260,711	4,138,000
Hops, lbs	653	72,738	137,048
Honey, cases	8	167	1,476
Potatoes, pkgs	451	4,917	16,731

Grain Freights and Charters.

This market shows less firmness than at date of previous review, and has been in the main exceedingly quiet. Although there have been no spot charters reported under £1 6s 3d to Cork for orders to United Kingdom, Havre, Antwerp or Dunkirk, a lower figure would have to be accepted at this date on desirable iron ships for the wheat trade, if such were pressed to engagement. The supply of tonnage here and headed this way is amply sufficient for immediate needs and all probable requirements of the near future.

Charters.

British steamer Strathgarry, 3264 tons, wheat to St. Vincent for orders, to two ports; £1 6s 3d.

Italian ship F. S. Ciampa, 1527 tons, wheat to U. K., Havre, Antwerp or Dunkirk; £1 6s 9d net.

British ship Carradale, 1982 tons, wheat and barley to U. K., Havre, Antwerp or Dunkirk; £1 6s 6d net.

British ship Balclutha, 1614 tons, wheat to to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d; 1s 3d less direct—chartered prior to arrival.

British ship Helensburgh, 1699 tons, wheat to Cork, U. K., Havre, Antwerp or Dunkirk; £1 10s; direct port, £1 8s 9d; option of Australia, £1 3s 9d—chartered prior to arrival.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive.
1896	62,915	47,798	255,991
1895	26,475	7,879	369,254

Flour.

There is little change to note in the general condition of this market other than possibly a weaker feeling, with local trade of a light order, and the export movement not as heavy as a few weeks ago. Stocks are of fair proportions, and close, cash buyers, looking more to quality than to brand, have no trouble in making purchases at decidedly advantageous terms.

Superfine, lower grades	$2 25@ —
Superfine, good to choice	2 40@2 50
Country grades, extras	2 85@3 15
Choice and extra choice	3 15@3 35
Fancy brands, johhing	3 35@3 60
Oregon, Bakers' extra	2 75@3 00
Walla Walla, Bakers' extra	2 75@3 00

Wheat.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	5s 4½d@5s 5½d.	5s 4d@5s 4½d.
Freight rates,	35@37½s.	26¼@27½s.
Local market,	$0.92½@97½	$0.93¾@95.

The prices above are for spot lots of standard No. 1 California in Liverpool, and for good to choice shipping in this city.

Instead of improving, the tendency of the wheat market, not only here, but in Eastern and foreign centers, has been to a lower range of values, and this in face of the fact that the last Government crop report indicated a lighter yield in the wheat States east of the Rockies than had been previously estimated. Business in the local market has been of a slow order on export account and for local purposes as well. Most of the time there was virtually no competition among shippers, the field being practically abandoned for the time being by all but one or two. The stringency of the local money market and discouraging conditions in foreign centers were prominent factors in causing the wheat market to be sluggish and weak. Call Board trading was slow at fractional declines during the latter part of last week and the beginning of the current week. No. 1. White wheat, new, seller 1896, season's storage paid, sold Monday at 94¼c. Option market Wednesday recovered fractionally, December wheat selling at 96⅜c, but spot market was without appreciable change for the better.

California Milling, old	$ 95 @1 02½
Cal. No. 1 shipping, alongside	93¾@ —
Oregon Valley	92½@ 97½
Walla Walla Blue Stem	90 @1 00
Walla Walla Club	85 @ 92½

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, 95½@96⅜c.

May, 1897, delivery, $——@——.

Wednesday, at regular noon session of Call Board, December wheat sold at 96⅛@96⅜c; May, $——.

Barley.

The first clearance of Chevalier barley for the current season was made the past week per the sailing vessel Christine, which departed for England with a full cargo of barley, 13,356 centals of which were Chevalier, valued at $12,700. Of the ordinary variety of Brewing the same ship carried 54,009 centals, having a valuation of $40,500. The ordinary variety of Brewing is stated to be growing more in favor with European buyers, which is in all probability due in a great measure to its being lower-priced. Aside from this, strictly choice Chevalier has not been readily obtainable this season in large quantities, and this has naturally operated against active trading in the variety in question. Feed descriptions met with only moderate inquiry, and with offerings of fairly liberal proportions, the market could not well be otherwise than favorable to buyers. Call Board market was inactive most of the week and devoid of encouraging feature for the selling interest.

Feed, No. 1 to choice	63¾@65
Feed, fair to good	60 @62½
Brewing, No. 1 to choice new	72½@77½

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, 67½@66¾c; May, 1897, delivery, ——@——c.

Wednesday at regular noon session of the Call Board, nothing was done in barley options.

Oats.

There are no heavy stocks of choice to select old, and buyers in quest of such goods find it necessary to pay tolerably firm figures, quotable values remaining about as last noted. The demand is not active, however, at the prevailing rates, and if custom were sought, concessions would have to be made. New oats are offering more freely than is warranted by the immediate demand, and market for the same is weak. Spot supplies of new, up to date, are mainly California, but free arrivals from Oregon and Washington are expected in the near future.

White Oats, fancy feed	92½@— —
White, good to choice	85 @ 90
White, poor to fair	77½@ 82½
Gray, common to choice	77½@ 85
Milling	85 @ 87½
Surprise, good to choice	97½@1 02½
New crop Cal. Oats	72½@ 82½

Corn.

Offerings of all varieties of domestic product have been lately on the increase from first hands, and with no corresponding increase in the demand, market has shown decided weakness. Local millers are mostly fairly well stocked through previous purchases, on which they are losing money, and are consequently not apt to entertain sellers in very agreeable fashion. The demand other than local is of insignificant volume.

Large White, good to choice	77½@ 80
Large Yellow	87½@ 90
Small Yellow	92½@ 95

Rye.

The same inactivity as previously noted is still the prominent feature of this market. Values are without improvement.

Good to choice, old	70 @ 72½
Good to choice, new	65 @ 67½

Buckwheat.

Transactions in this cereal are few and far between. As there is no positive demand, buyers have it about their own way as to prices.

Good to choice	90 @ 92½

Beans.

Advices from New York by mail report the bean market there as follows:

This has been a particularly dull week in the bean market. The closing of the Havana custom house caused a practical suspension of business with that port, and other West Indian markets have not been buying much stock. Home trade demand has been very slack, as usual during the hot weather of August. Prices have been held about as previously quoted. Every one has considered values so low that not much further shrinkage would be probable under almost any condition, and there has been very little pressure to sell in consequence. There is still uncertainty as to the size of the new crop. The acreage was large, but there has been an unusual growth of vines, and the yield of beans will be proportionately less than last year Rust is reported in some sections. There is likely to be a full supply, however, and, with a good deal of old stock to carry over, the outlook is for continued low prices. California Limas are offering at $1.65 per bushel and are neglected.

The local market shows little life. The occasional sales effected are mostly of a small jobbing order, and mainly on local account. Most varieties are in liberal supply, particularly as compared with the inquiry. Black Eyes have been lately in rather light stock, proving an exception to the general rule. Limas are offering freely at easy rates, with poor prospects of any change for the better being very soon experienced.

Pea, fair to good, 100 lbs	$1 20 @1 35
Small White, good to choice	1 00 @1 15
Lady Washington	75 @1 00
Butter, small	1 10 @1 25
Pinks	65 @ 80
Bayos, good to choice	90 @1 05
Reds	1 20 @1 30
Red Kidneys	1 25 @1 50
Limas, good to choice	2 00 @2 25
Black-eye Beans	1 50 @1 75

Dried Peas.

Business in this product is so light that values are poorly defined. Quotations remain nominally as last noted.

Green Peas, California	$1 15 @1 30
Niles Peas	1 20 @——

Wool.

Stagnation is still reigning in this market, and the prospects for any speedy revival of trade are anything but encouraging. Many of the Eastern manufacturers are not turning a wheel, and although they are as a rule carrying very little stock, they cannot be persuaded into making purchases at present, extremely low prices proving no inducement. Not until there is a resumption of business in Eastern manufacturing centers can we hope for any activity here. There is nothing but the views of holders at present upon which to base quotations.

SPRING.

Humboldt and Mendocino	10 @12
Northern California free	— @—
Northern defective	5½@ 7
San Joaquin Foothill, good to choice	6 @ 7½
San Joaquin, 12 months	4 @ 6½
San Joaquin and Southern, 6 months	4 @ 6
Nevada, as to condition	7 @ 9
Oregon Valley, select	9 @10½
Oregon Valley, low grade	8 @ 9½

Hops.

The hop market on the Atlantic side is thus outlined by a New York authority:

Crop conditions are now being watched with much interest, as it is not too late for damage from vermin, etc. In some sections of this State there are lice, but not in sufficient quantity to cause much apprehension at present. Reports from the most reliable sources place the probable yield at 35 to 40 per cent short of last year, possibly more in some localities. We understand that a few West Seedlings will be picked next week. The shrinkage in the yield on the Pacific coast will be large also; none of the estimates of the crop now run above 100,000 bales, and some fall to 90,000 bales. A good deal of contracting has been done in Oregon, mostly at 6 cents, but growers are now refusing to accept less than 6½ cents, and some business has been done at that. Advices from England are conflicting, but are less favorable on the whole This does not improve the English markets, however, and there seems to be no demand from there. Our local market is in a stupidly dull condition, with values to a large extent nominal. Brewers have turned out immense quantities of beer, and have been running at full force, but they had plenty of hops on hand and found no occasion to make new purchases.

The market in this center remains as featureless as for some time past. Although the yield on this coast promises to be considerably below that of last season, largely owing to unprofitable prices discouraging picking, there is likely to be more than enough to satisfy the demand. A very marked shortage in the hop crop of the world would be necessary at this date to cause any radical advance in values.

Fair to choice, 1895 crop	2 @4

Hay and Straw.

Buyers are still having much their own way in the hay market. The crop this season is above the average in quantity. With producers crowding the market, being anxious to realize, and buyers slow to stock up heavily, it can be readily seen that the development of weakness must be an inevitable result. Straw is dragging at the same low prices as were in force a week ago.

NEW HAY.

Wheat	7 50@ 9 50
Wheat and Oat	6 50@ 8 00
Oat	5 00@ 7 00
Barley	6 00@ 7 50
Clover	5 00@ 6 50
Stock Hay	4 00@ 5 00
Alfalfa, first cutting	4 00@ 5 00
Straw, ℔ bale	25@ 35

Millstuffs.

Market for bran and middlings has shown a little firmer tone. On rolled barley, cracked corn and cornmeal the tendency of the market has been in favor of buyers.

Bran, ℔ ton	11 00@12 50
Middlings	15 00@16 50
Barley, Rolled	14 50@15 00
Cornmeal	19 00@19 50
Cracked Corn	20 00@20 50

Hides, Pelts and Tallow.

Market is ruling very quiet, and is quotably lower for Hides and Tallow. Market for Pelts without new or noteworthy feature not previously noted.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	6 @ —	5 @ 5½
Medium Steers, 48 to 56 lbs	— @ 5	4 @ 4½
Light Steers, under 48 lbs	4 @ —	3 @ 3½
Heavy Cow Hides, over 50 lbs.	4 @ 4½	— @ 4
Light Cow Hides, under 50 lbs.	4 @ —	3 @ 3½
Wet Salted Kip	— @ 4	— @ 3
Wet Salted Veal	— @ 5	— @ 4
Wet Salted Calf	— @ 6	— @ 5
Dry Hides, round lots, 7½@9c.	9 @ 9½	— @ 7
Dry Kip and Veal, 11 to 16 lbs.	7 @ 8	— @ 6
Dry Calf, under 4 lbs	12 @14	8 @ 9

Horse Hides, large	75@1 00
Horse Hides, medium	50@ 75
Horse Hides, small	25@ 50
Colts' Hides	—@ 25
Pelts, long wool, per skin	50 @60
Pelts, medium, per skin	40 @50
Pelts, short wool, per skin	20 @35½
Pelts, shearling, per skin	10 @15½
Deer Skins, best summer	25 @27
Deer Skins, good medium	15 @22
Deer Skins, thin winter	7 @10
Elk Hides	8 @ 9
Tallow, good quality	2¼@ 2½
Tallow, No. 2	— @ 2
Goat Skins, perfect	20 @35
Goat Skins, damaged	10 @20
Kid Skins	5 @ —

Seeds.

There is little doing in mustard seed, largely due to limited offerings and firm views of holders. Indications are that this season's crop, more particularly the best qualities, will

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command materially better prices than last season. Market for most other seeds is inactive at nominally unchanged values.

	Per ctl.
Mustard, Yellow	1 60@1 75
Mustard, Trieste Seed	2 75@3 00
Mustard, Wild Brown	1 75@2 00
Flax	1 50@1 60
	Per lb.
Canary	2¼@2¾
Rape	2 @2¼
Hemp	3¼@3½
Alfalfa, Utah	—@ —

Bags and Bagging.

Little doing at present in grain bags, and nothing to warrant anticipating any trading of consequence until inquiry for next season's requirements begin. It is now pretty generally conceded that there will be considerable stock carried over. Wool sacks are meeting with moderate custom on account of the fall clip, with no change to note in prices.

Grain bags, 22x36, spot	4¼@ 4½
Wool sacks, 4 lb	28 @—
Wool sacks, 3½ lb	26 @—
Gunnies	12 @—
Bean bags	4 @ 4¼
Fruit sacks, cotton	5½@ 7½

Honey.

Small quantities of new crop are coming forward, mainly from the San Joaquin valley, where most of this season's honey was produced. The bee districts in the southern coast counties, usually large producers, are this year turning out little or nothing. Market is firm at the quotations, but only on local account are current figures obtainable. Letters were received here this week from Europe, offering Austrian honey at $4.80 per 100 lbs, ex-duty, laid down in New York.

White Comb, 1-lb frames	11 @12½
Amber Comb	7½@10
Extracted, White Liquid	5 @ 5½
Extracted, Light Amber	4½@ 4¾
Amber Colored and Candied	3¾@ 4
Dark Tule	2¾@ 3

Beeswax.

Not much arriving and only a small proportion of receipts is of fine quality. Buyers are not numerous, however, and market is rather easy in tone.

Fair to choice, ₱ lb	22@25

Live Stock and Meats.

No improvement observable in the market for hogs. Small to medium in fine condition are the only kinds sought after. Feeders and soft hogs receive virtually no attention. Wholesale rates for live stock and meats are as follows:

Beef, 1st quality, dressed, net ₱ lb	4½@ 5
Beef, 2d quality	4 @ 4½
Beef, 3d quality	3½@—
Mutton—ewes, 4@4½c; wethers	4½@ 5
Hogs, hard grain fed, light fat	3½@ 3¼
Hogs, large hard	2⅞@ 3
Hogs, soft and feeders	— @—
Hogs, country dressed	4¼@ 4½
Veal, small, ₱ lb	5 @ 6
Lamb, spring, ₱ lb	5 @ 5½

Poultry.

Further arrivals of Eastern poultry kept the market for most descriptions of home product in generally unsatisfactory and unprofitable condition for the selling and producing interest. Large and fat chickens and desirable Fryers and Broilers sold to fair advantage, as did also young turkeys which were large enough to be suitable for roasting. Ducks failed to meet with any special competition from buyers. All poor and scrubby stock dragged at low prices.

Turkeys, live hens, ₱ lb	12@ 13
Turkeys, live gobblers	13@ 14
Turkeys, large young	16@ 18
Hens, Cal., ₱ doz	4 00@4 50
Roosters, old	4 00@4 50
Roosters, young, (full-grown)	4 00@5 00
Fryers	3 00@3 50
Broilers, large	2 50@3 00
Broilers, small	2 00@2 50
Ducks, young, ₱ doz	3 00@4 00
Ducks, old	2 50@3 00
Geese, ₱ pair	1 00@1 25
Goslings, ₱ pair	1 25@1 50
Pigeons, ₱ doz	1 50@ —

Butter.

Entirely too much fresh butter was carried over from previous week to leave the market in a healthy condition. On this carried over stock buyers had no trouble in obtaining decided concessions in their favor, holders being anxious to realize and to effect a clean-up. Arrivals this week were not heavy, but were considerably ahead of requirements. A large proportion of the trade is now on packed butter. Market for packed has an easy tone.

Creamery extras, ₱ lb	18 @—
Creamery firsts	17 @—
Creamery seconds	15 @16
Dairy select	16 @—
Dairy seconds	14 @15
Dairy, soft and weedy	10 @11
Mixed store	10 @12
Creamery in tubs	15 @16
Pickled roll	15 @16
Dairy in tubs	14 @15
Firkin, Cal., choice to select	14 @15
Firkin, common to fair	11 @12½

Cheese.

Market is lightly stocked with choice, new full-cream cheese of mild flavor, and such is commanding in a small way quite firm prices. There is no special scarcity of old cheese and no active demand for the same, but it is in the main very steadily held.

California fancy flat, new	9 @—
California, good to choice	7 @ 8
California, fair to good	6 @ 7
California, "Young Americas"	8 @ 9½

Eggs.

There has been less firmness in the egg market than during preceding week. The sharp advances in values of about a fortnight ago for choice to select, direct from ranch or hennery, drove most of the trade on to Eastern eggs, which were offered at much more reasonable figures, and included stock which would compare quite favorably as to quality, size, color, etc., with the best domestic. It has been difficult to get this custom diverted back to the home product, and in consequence trade in the latter drags.

California, select, large white and fresh	21 @—
California, select, irregular color & size	17 @20
California, good to choice store	13 @15
California, common to fair store	10 @12
Oregon, prime	14 @15
Eastern, as to section and grading	14 @16
Eastern, seconds	10 @12
Duck eggs	16 @17

Vegetables.

Onion market showed a little better tone, offerings cleaning up better, but values were not materially advanced. Green peas and string beans are not making much of a display, the season for them being nearly over, and there is little inquiry for either sort. Most other vegetables were in liberal supply and were offered at easy figures.

Asparagus, Fancy, ₱ box	— —@— —
Asparagus, common to good, ₱ box	— —@— —
Beans, String, ₱ sack	50@ 1 00
Beans, Wax, ₱ lb	1½@ 3
Beans, Garden, ₱ lb	2@ 3
Beans, Lima, ₱ lb	3½@ 5
Cabbage, choice garden, ₱ 100	50@ 60
Cauliflower, ₱ doz	40@ 50
Corn, Alameda Sweet, ₱ crate	1 00@ 1 50
Corn, Berkeley, ₱ crate	65@ 1 00
Corn, Vacaville and Winters, ₱ crate	— —@— —
Corn, Green, ₱ sack	50@ 75
Cucumbers, Alameda, large box	10@ 25
Egg Plant, ₱ box	25@ 40
Garlic, ₱ lb	1@ 1¼
Okra, Green, ₱ box	40@ 75
Onions, Red, ₱ central	—@ —
Onions, Yellow, good to choice	30@ 40
Peas, Green, ₱ sack	50@ 1 00
Peppers, Green Chile, ₱ box	25@ 50
Pepper, Bell, ₱ large box	40@ 50
Pickles, No. 1, ₱ 100 lbs	1 00@ 1 25
Pickles, No. 2, ₱ 100 lbs	50@— —
Rhubarb, ₱ box	—@ —
Squash, Bay, ₱ large box	15@ 25
Tomatoes, River, per large box	15@ 25
Tomatoes, Vacaville, ₱ box	—@ —

Potatoes.

Values for potatoes suffered further reductions since last review. Market was especially weak for Sacramento river stock and common qualities from other sections. Choice to select Burbanks commanded comparatively good figures, but even on this description prices ruled lower than had been prevailing. Sweets were in increased supply and market tended in buyers' favor.

IN SACKS.

Early Rose, River, ₱ central	30@ 40
Peerless, River	—@ —
Garnet Chile, Mission	50@ 60
Burbanks, River	30@ 40
Burbanks, Salinas	60@ 90
Sweet Potatoes	1 25@1 50

The Fruit Market.

Fresh Fruits.

With canners operating lightly, and no active demand from the retail trade, the market for nearly all kinds of fruit has been in unsatisfactory condition. The daily papers have been giving accounts under flash headings of large quantities of fruit being dumped into the bay, as well as of great amounts being given away, for utter lack of custom. While the market has been in bad shape, there is no evidence of much fruit having been dumped, and little or none which could be said to have any value or to be fit for food. In his efforts to be sensational, the average news-gatherer for the secular press does not hesitate to exaggerate facts and to treat the truth as though it were elastic as rubber. Inferior fruit almost invariably goes a begging, and the pressing of large quantities of this description on the market has had much to do with the depressed state of the fresh fruit trade, although there were other influences at work, prominent among them being the handicapped condition of canners, on account of the tightness of the money market. With all the serious drawbacks, however, there was scarcely any strictly select fruit that had to go begging for custom.

Apples were not in large supply, and choice to fancy were especially in slim stock. Some very select Gravenstein in 4-tier boxes brought $1.25 per box, but this figure was hardly warranted as a quotation.

Pears of ordinary quality were in heavy receipt and mostly in such condition that they had to be speedily disposed of. There were small and scaly Bartletts which would not command $8 per ton, while buyers stood willing to pay $15 per ton for choice, and were not able to secure the latter at the figure named.

Peaches were very plentiful and market ruled weak for both Freestones and Clings, although stocks were largely of the last named sort.

Plums fared fully as badly as peaches, the quantity arriving being much larger than could be advantageously disposed of, with most canners and wholesale buyers out of the market.

Nectarines arrived in very moderate quantity, but there was no extensive demand for this fruit and little opportunity to exact stiff prices.

Figs arrived sparingly, with the quality mostly ordinary and the demand slow.

Grapes were not offered in extensive fashion, and it was the exception where the quality was such as would prove acceptable to the most fastidious. For choice to select comparatively good prices were obtainable.

Watermelons were in sufficient supply, although the weather was warm and favorable for their disposal. Cantaloupes and Nutmegs continued plentiful and averaged lower than previous week.

Strawberries and raspberries remained about as last quoted. Blackberries were in increased supply and tended less in sellers' favor.

Apples, Gravenstein, fancy, 4-tier	75@ 1 00
Apples, Gravenstein, 50-lb box	60@ 75
Apples, Red Astrachan, 50-lb box	25@ 50
Apples, Green, ₱ 50-lb box	30@ 60
Crabapples, ₱ box	25@ 50
Figs, Black, ₱ 2-tier 15-lb box	50@ 75
Figs, Black, ₱ 1-tier box	30@ 50
Figs, White, ₱ box	25@ 50
Nectarines, Red, ₱ box	50@ 65
Nectarines, White, ₱ box	25@ 40
Prunes, Tragedy and German, ₱ crate	40@ 50
Peaches, fancy wrapped, ₱ box	30@ 40
Peaches, good to choice, ₱ box	20@ 35
Peaches, Freestone, per ton	10 00@15 00
Peaches, Cling, per ton	8 00@15 00
Pears, Bartlett, ₱ ton	8 00@15 00
Pears, Bartlett, No. 1, per box	30@ 50
Pears, Bartlett, No. 2, per box	10@ 25
Pears, other kinds, ₱ box	10@ 30
Plums, choice, large, ₱ box	25@ 35
Plums, other kinds, ₱ box	15@ 25
Plums, Japanese, ₱ crate	25@ 35
Plums, per ton	7 00@12 00
Nutmeg melons, ₱ box	50@ 65
Watermelons, per 100	5 00@12 00
Cantaloupes, per crate	50@ 1 25

Berries.

Blackberries, ₱ chest	2 00@ 3 50
Currants, Red, ₱ chest	— —@— —
Raspberries, ₱ chest	3 50@ 5 00
Strawberries, Longworth, ₱ chest	3 50@ 4 00
Strawberries, Large, ₱ chest	2 00@ 3 00
Whortleberries, ₱ lb	6@ 8

Grapes.

Fontainebleau, Cal., per crate	40@ 60
Fontainebleau, Cal., per box	25@ 40
Muscat, per box	50@ 60
Muscat, ₱ crate	60@ 75
Rose of Peru, ₱ box	40@ 50
Rose of Peru, ₱ crate	60@ 75
Seedless Sultana, ₱ box	50@ 75
Tokay, ₱ crate	75@ 1 00

Dried Fruit.

The following from a New York authority summarizes the condition of the dried fruit market on the Atlantic side:

As the season advances there is more pressure to reduce stock of evaporated apples, and with only a small jobbing demand values are weak and uncertain. About the same prices are asked, but buyers could obtain concessions on a good-sized order and we reduce quotations slightly. The crop prospects cause makers to offer new fruit for September and October delivery at very low figures; prime can be easily bought at 4¾c, and choice at 5c. Some new evaporated have arrived, but are poor and receiving little attention; one lot sold for export. Fancy N. C. sun-dried have had some attention, but all other grades of sun-dried apples are very quiet and nominal. Hardly anything doing in cores and skins. New chops for future delivery are selling at $1.65@1.80, and waste at 1c up, a car having sold at that figure. Peaches are entirely nominal. Old raspberries are pretty well cleaned up, and new are firm at the moment at 15c; peddling sales, 16c. Huckleberries are in small supply; new are held at 8c, but that is extreme. Cherries are held steady, but not moving to any extent. Blackberries are offered to arrive at 5c, and tone is weak. New California Royal apricots are arriving more freely, and are weaker; very few sales reported above 8½c, and ordinary range down to 7½c and lower. Old are quiet, with some poor cleaning up below inside quotation, though few left. Peaches show no new feature. A good many prunes have been bought this week for September and October delivery at a fraction less than 3¼c f. o. b.

There is a little business doing in the local dried fruit market, but the aggregate is of insignificant proportions compared with what it should be at this date. Some sales were made for Australia and also for South Africa, and an occasional transfer was reported on Eastern account, but the entire trade for the week was less than some prominent houses have frequently transacted in a single day in busy times.

Apricots are in the main rather steadily held, but asking figures and prices obtainable are considerably apart in a good many instances. Some sales of choice Royals are noted at 6½@6¾c f. o. b. cars, and there is a considerable quantity held at 7c. For fancy Moorparks as high as 12c is asked, but this is above buyers' views at present.

Peaches have been tending in favor of buyers. Recent sales are reported in carload lots of good average qualities of evaporated at 4¼@4½c. Under selling pressure it would be difficult to realize little, if anything, over 4c for prime stock at this date. Some choice are held at 5c. Purchases in the sweat boxes are reported at 3c.

Prunes of coming crop have been contracted for as low as 2¾c for the four sizes, but most packers are said to be out of the market at present at this figure. There will be a liberal yield of small prunes, but a scarcity of 40-50s. The green fruit is now bringing $20 per ton. French prunes are offering in New York at 5¼c.

Apples of desirable quality are in light stock, and the output this season on this coast promises to be light. For choice evaporated to arrive of this season's curing 6c is asked.

Quotations given below cover values for new crop in this market, as nearly as it is possible to do so at this date.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	6 @ 6½
Apricots, Royal, fancy	6¾@ 7
Apricots, Moorpark	9 @10
Apples, in boxes	5 @ 6
Nectarines, White	— @ 4½
Nectarines, Red	— @ 4
Peaches, unpeeled	3½@ 5
Peaches, peeled	9 @11
Pears, peeled and sliced	4 @ 6
Pears, halved, unpeeled Bartletts	5½@ 6
Pears, quartered, unpeeled Bartletts	4 @ 5
Plums, pitted	3 @ 4
Prunes, in sacks, 4 sizes	2¾@ 3
Prunes, in sacks, small sizes	1½@ 2

COMMON SUN-DRIED.

Apricots, ordinary	— @ —
Apples, sliced	2½@ 3
Apples, quartered	2½@ 3
Figs, Black	1½@ 3
Peaches, unpeeled	3 @ 3½
Pears, quartered, 3@3½c; sliced	3 @ 3½
Plums, unpitted	1 @ 1½

Raisins.

There is some local demand for good layers, unsugared, and some Eastern inquiry for loose

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raisins of last crop, but there are few of desirable quality, layers or loose, now remaining. Market for forward deliveries of new is ruling easier than last quoted, with offerings rather heavier than the immediate inquiry. London layers of coming pack were reported being offered this week to Eastern buyers down to $1 per box.

FIRST HALF OCTOBER SHIPMENTS.

Fancy Clusters, per box	1 40@ 1 50
Boxes, London layers, 20-lb box	1 00@ 1 15
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ℔ lb	3¾@3¾
Loose Muscatel, 3-crown	3 @ —
Loose Muscatel, 2-crown	2½@ —
Sultanas	4 @4½
Seedless Muscatel	2½@ —

Citrus Fruit.

Lemons are in more than sufficient stock for existing needs, and market is weak, with a decline in quotable values. There are some common qualities difficult to move in a wholesale way at lowest figures quoted. Limes are going at much the same rates as last noted, with market rather easy in tone.

Oranges—Wash. Navels, ℔ box	— —@— —
Cal. Mediterranean Sweet	— —@— —
Cal. Seedlings	— —@— —
Lemons—Cal., select, ℔ box	3 00@— —
Cal, good to choice	2 00@ 2 50
Cal., common to good	1 00@ 2 00
Limes—Mexican, ℔ box	5 00@ 6 00
Cal., small box	1 00@ 1 25

Nuts.

Spot stocks of nearly all descriptions are light, and trading is of an insignificant character. Prices for old are nominally as before. Values for new crop nuts to arrive remain undetermined.

California Almonds, paper shell	7 @ 8
California Almonds, soft shell	4 @ 6
California Almonds, standard	3 @ 3½
California Almonds, hard shell	2 @ 2½
Walnuts White, paper shell	11 @12
Walnuts White, soft shell	9 @10
Walnuts White, Cal., hard shell	7 @ 7½
Peanuts, Cal., fair to prime	4 @ 5
Peanuts, Eastern hand-picked	5½@ 6½
Pine Nuts	12 @14

California Fruit Sales.

CHICAGO, August 13.—The Earl Fruit Company sold to-day: Pears—Bartlett, 75c@$1.25. Plums—Kelsey, $1.10@1.75; Egg, 70@90c. Prunes—Italian, 90c@$1.40; Gros, 80c@$1.20. Peaches—Susquehanna, 65@90c; Early Crawford, 50@70c; Foster, 45@55c; Yellow C ing, 85c Grapes—Tokay, $2; Fontainbleau, $1.30@1.55. Nectarines—40@90c.

CHICAGO, August 11.—The Earl Fruit Company sold to-day: Pears—Bartlett, 80c@$1.10. Grapes—Tokay, $2.30 ℔ half crate; Fontainebleau, $1.30@1.60. Prunes—Italian, $1.20@1.40; Gros, 60c@$1. Plums—Egg, 70@85c. Peaches—Susquebanna, 65c @$1.10; Foster, 50@60c.

NEW YORK, August 14.—The Earl Fruit Company sold to-day: Pears—Bartlett, 80c@$1.15; Beurre Clairgeau, $1. Grapes, $1@1.20. Plums—Quackenboss, $1@1.05; Egg, 80c; Columbia, 65c; Purple Duane, 90c. Prunes—Gros, 80c@$1.10.

NEW YORK, August 17.—The Earl Fruit Company sold to-day: Pears—Bartlett, 80c@$1.40; Souvenir de Congress, $1.20; Beurre Hardy, half boxes, 60@65c; Seckels, half boxes, 85c@$1. Plums—Quackenboss, $1.25; Columbia, 90c; Victoria, 80@85c; Egg, 75c@$1.20. Prunes—Gros, 80c@$1.35. Grapes—Thompson's Seedless, $1.10@1.15.

CHICAGO, August 17.—The Earl Fruit Company sold to-day: Pears—Bartlett, 65c@$1.35. Peaches—Susquebanna, 55@70c; Crawford, 45@55c. Grapes—Tokay, $1.80@2.05 ℔ half crate; Fontainebleau, $1.30@1.45. Prunes—Gros, 85@90c.

NEW YORK, Aug. 18—The Earl Fruit Company sold to-day: Pears—Bartlett, $1.30@1 50 ℔ box. Grapes—Malaga, $1.60@1.70; Thompson seedless, 80c@1.25. Prunes—Gros, $1.20@1.40; California, $1.25. Plums—Columbia, $1.15; Egg, 90c@$1.15; Victoria, 00c@$1.00.

CHICAGO, August 18.—The Earl Fruit Company sold to-day: Pears—Bartlett, 85c@$1.20. Grapes—Tokay, $1.50@1.90; Muscat, $1.50; Fontainebleau, 60c; Rose Peru, 50@80c. Plums—Egg, 40c; Kelsey, 85c@$1.30; Quackenbos, $1.30; Robe de Sargent, 50@95c. Prunes—Italian, $1 30@1.45; German, $1.10; Bulgarian, 85@95c; Gros, 70c@1.10. Peaches—Susquebanna, 50@65c; Orange clings, 60@65c; Picquette, late, 50c.

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Patrons of Husbandry.

Death of Hon. George Ohleyer.

How many readers of the RURAL will be shocked and bereaved as they hear of the death of Bro. George Ohleyer Sr., whose life has been full of such important efforts, and whose friendship has gladdened many lives. Bro. Ohleyer has been for years a most patient sufferer and in spite of his disability has accomplished a world of work. A few weeks ago the aggressiveness of a malady which has long affected his foot forced an operation, and subsequently a second operation, the amputation of the leg above the knee, was resorted to. Though the patient withstood the operation in a remarkably good manner and recovered from the effects of the ether, feeling in good spirits and comparatively free from pain, he afterwards developed unfavorable symptoms and died on Saturday night, August 15th. The following obituary published by the Marysville *Democrat* will be read with sad interest:

For thirty years Mr. Ohleyer had been prominently identified with the interests of Sutter county, and during that period he bore an enviable reputation, gaining a wide popularity, which in the last ten years of his life extended to the boundaries of the State. The interests of the Sacramento valley were ever his interests, the records of the Anti-Debris Association being the veriest proof for this statement. A wife and seven children—three sons and four daughters—survive him. Mrs. Ohleyer was greatly affected Saturday night and yesterday, the services of a physician being required as a result of the shock attending her husband's death.

Deceased was a native of Algiers, France, and had reached his sixty-fifth year. In 1833, when he was but two years of age, he came to the United States with his parents, who settled in Wayne county, New York. In 1835 the family moved to Ohio, where the son remained until 1852. Then he paid California a visit, remaining but a year, when he returned to Ohio. After his marriage he again came to California and settled in Yuba county for a short time. It was in 1865 that he went to live in Sutter county.

At the time of his death Mr. Ohleyer was Lecturer of the State Grange, Patrons of Husbandry. Funeral services were held at the late residence of deceased, three miles west of Yuba City, at 1 P. M. Tuesday, under the auspices of Yuba City Grange. The interment was in Sutter City cemetery.

Our David Meets the Goliaths of Germany

And Brings Them Into Camp.

The cable of the Associated Press brings an interesting account of the progress of Bro. David Lubin of Sacramento in bringing his great ideas to the attention of the effete monarchies of Europe.

On Thursday, August 6th, a select conference was held at the residence of Prof. Sering, of the Berlin Academy of Agriculture, to which were invited Baron von Hammerstein-Loxten, Prussian Minister of Agriculture, Domains and Forests; Dr. Thiel, First Councilor of the Commission of Agriculture; Hon. Edwin F. Uhl, United States Ambassador to Germany; Dr. Schumacher, who paid two official visits to the United States for the purpose of studying the agricultural conditions prevailing in America; Mr. Turke, of the Eckert Agricultural Machinery Co.; David Lubin, of Sacramento, Cal., as the representative of the Patrons of Husbandry, and two or three other prominent agrarians. Baron von Hammerstein-Loxten and Ambassador Uhl, having made prior engagements, were compelled to absent themselves from the conference, but all the others who were invited were present.

Mr. Lubin presented a number of questions for discussion bearing upon the prospective causes and effects and remedies connected with the decline of prices in the agricultural products of the world. Among the number of remedies suggested by the questions submitted were the remonetization of silver at a ratio of 16 to 1 and the establishment of a free trade system. The submission of the questions was followed by a discussion, which lasted five hours.

Prof. Sering delivered an address, in which he expressed his belief that the prices of agricultural products had reached their lowest figures, but he admitted that, while they will not fall any lower, it was possible that they might remain stationary for a long time to come. Alluding to Mr. Lubin's contention, which was that if the efforts to establish a free-trade system should fail, the farmers of the United States ought to be granted bounties on their export products by their Government. Prof. Sering said he was not surprised at Mr. Lubin's demand, but warned him and the others of his hearers that, if such a system of bounties were established, it would immediately elicit strong retaliatory measures in Europe and perhaps cause the creation of a protectionist union of the European countries against the United States. It was a mere delusion, he continued, for the agriculturists of the United States to suppose that France and Germany could be starved into surrendering. The Argentine Republic and Russia, he said, could provide an ample supply of wheat, meats, etc., for an indefinite time.

Dr. Schumacher, who followed Prof. Sering, concurred in that gentleman's opinion, and believed that the coinage of silver at a ratio of 16 to 1 in the United States would naturally induce a serious economic conflict with Europe.

Mr. Turke, whose commercial connections are chiefly with the Argentine Republic and Russia, expressed himself as convinced that both of those countries were only beginning their careers as the grain providers of the world. Russia, he said, was developing in the production of grain amazingly, and he predicted that within a few years the whole of southern Siberia would become a serious competitor for supplying Europe and the rest of the world with cereals.

Prof. Sering suggested the creation of an international alliance of the agrarians of the world, with the central bureau in London, Washington, Berlin or Paris, and that the alliance hold annual meetings of delegates from the various agrarian institutions. The proposal was deferred for the action of a future conference.

Baron von Hammerstein-Loxten previously received Mr. Lubin, who was introduced to the Minister of Agriculture by Ambassador Uhl. Upon this occasion Baron von Hammerstein declared that he was in full sympathy with Mr. Lubin in the latter's anxiety in regard to the decline in the production of agricultural products. Prussia, he said, was suffering equally with the rest of the world in the general depression of business and prices. He added that he was glad that Mr. Lubin was about to discuss the problem with which they were confronted with the leading economists of Germany. Baron von Hammerstein later introduced Mr. Lubin to Prof. Sering and Dr. Schumacher. A report of the proceedings of the agricultural conference has been furnished to Baron von Hammerstein.

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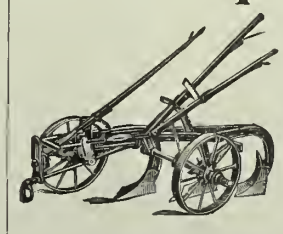

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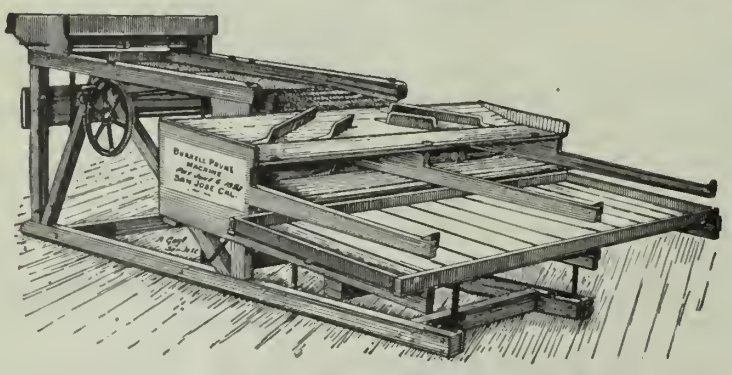

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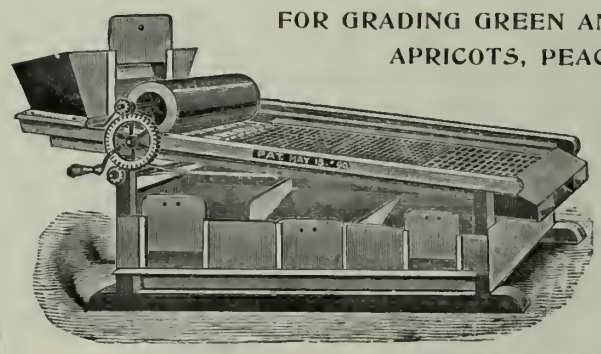

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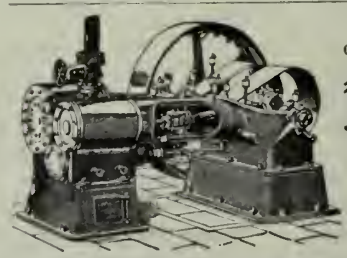

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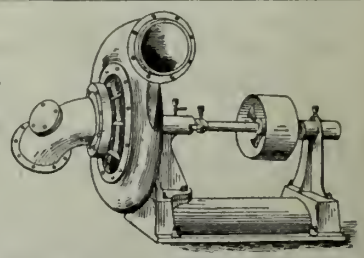

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THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LII. No. 9. SAN FRANCISCO, SATURDAY, AUGUST 29, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.

This Paper not to be taken from the Library

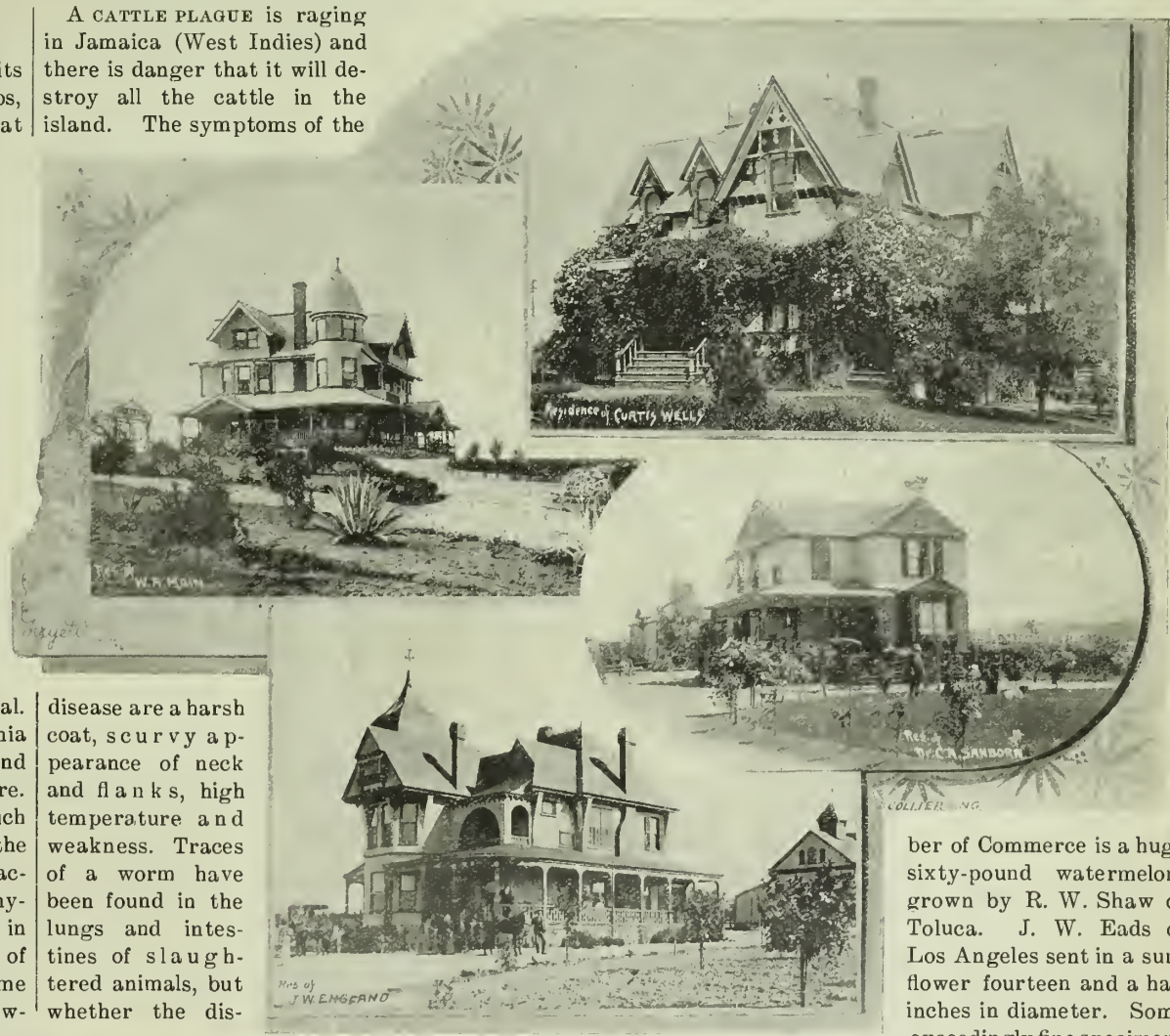
Some Redlands Homes.

One of the charms of southern California lies in its domestic architecture. No other country, perhaps, affords so curious and pleasing a contrast as that supplied by the spacious and showy dwelling of the recent arrival from the East and the adobe hovel of the still lingering Spanish-American. The one is beautifully "modern" and the other is quite as beautifully antique; and standing in close neighborship, as they do in many instances, they make a picture which eloquently tells the story of the things that are and of the things that are no more.

The larger development of our southern counties came, happily, at a time when modern notions of house-making had gained general acceptance; and the consequence is that no country is richer in homes beautiful to look at and in all ways suited to the uses of civilized life. The views grouped upon this page, all taken in and about Redlands, are fairly representative of the style which prevails in the more prosperous parts of the orange region. It is a land of handsome houses and the taste is exacting and whimsical, indeed, which in the course of a day's journey does not find its ideal. Of all the recent styles in house-building in California that appeals most to the RURAL's sense of beauty and fitness is the adaptation of old Spanish architecture.

The financier and the architect have done much in the making of these beautiful homes, but it is the kindliness of nature which gives them their characteristic charm. In all the southern region—or anywhere in California for that matter—a little care in the planting and watering will yield a wealth of floral adornment to be had nowhere else at the same slight cost. He who in this land has not an embowered home, by the mere fact confesses his indifference or his indolence.

The RURAL is indebted for the pictures here given to a recent and profusely illustrated edition of the Redlands *Facts*.



EXAMPLES OF DOMESTIC ARCHITECTURE IN SOUTHERN CALIFORNIA.

A CATTLE PLAGUE is raging in Jamaica (West Indies) and there is danger that it will destroy all the cattle in the island. The symptoms of the disease are a harsh coat, scurvy appearance of neck and flanks, high temperature and weakness. Traces of a worm have been found in the lungs and intestines of slaughtered animals, but whether the disease is due to this parasite is not at present known. Some estates have lost almost all the cattle, and no districts are free from the disease.

AMONG recent donations to the Los Angeles Chamber of Commerce is a huge sixty-pound watermelon, grown by R. W. Shaw of Toluca. J. W. Eads of Los Angeles sent in a sunflower fourteen and a half inches in diameter. Some exceedingly fine specimens of Kelsey Japan plums were contributed by Mark Brimble of Covina. Samples were sent to Washington, so that casts might be made.

ARRANGEMENTS have been made and property leased in Fresno for a cream of tartar factory, which will make use of lees and dregs from wineries which have heretofore gone to waste. There is enough to supply a large part of the demand of the world, and the factory is expected to do a large business.

ANOTHER consignment of California fruit, consist- of 4250 half-cases, was sold in London on August 21st. Prices were poor, owing to the fact that the fruit was too ripe, making a difference of 1s per case. Pears averaged 3s 3d to 5s 6d; plums, 5s 3d to 5s 9d; peaches, 4s 6d to 7s.

THE Grizzly Bluff Creamery, near Ferndale, Humboldt county, Cal., was destroyed by fire on the night of the 20th, supposed to have caught from a furnace. The loss on the building and contents is $11,300; insured for $4000.

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Our latest forms go to press Wednesday evening.

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ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, August 29, 1896.

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The Week.

Weather and Crops.

The very full and excellent statement of the week's conditions furnished by the Sacramento weather office leaves very little to be said. Unusual as the conditions have been, they have not been of a kind to make serious loss for anybody or to interfere with seasonal work. General harvesting is in its latter days, and the shipping of fresh fruits having let down to a great extent, there has been great activity in the canneries and the drying yards.

The following data for the week ending 5 A. M. Wednesday, Aug. 29, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	.02	.06	.21	.21	66	54
Red Bluff	T	T	.16	.03	100	66
Sacramento	....	T	.04	T	*	58
San Francisco	....	.07	.01	.03	67	52
Fresno	....	.06	T	T	102	64
San Luis Obispo	....	.04	T	*	84	54
Los Angeles	....	.01	T	.08	82	58
San Diego	....	.04	....	.08	76	62
Yuma	T	.38	.01	50	110	72

* Indicates no record.

Blood Poison From Diseased Cattle.

A letter from Santa Ana, 23rd inst., reports the death of Dr. J. H. Garner, a veterinary surgeon, after suffering terribly for three days from blood poison, thought to have resulted from contact with bloody murrain in cattle which he was treating. The case was a most peculiar one and puzzled the local physicians.

Hauling to Water.

The editor of the Willows *Journal* has recently made a short journey and reports his observations as follows:

"In going to Butte City these days one encounters a string of teams grain laden that is truly astonishing. Our farmers have come to the conclusion that owing to the present price of wheat they must seek cheaper transportation and also save warehouse charges, and in order to do so must have recourse to the Sacramento river. Yesterday our reporter counted thirty-two six and eight mule teams with two and three wagons each, all headed for the river and carrying from six to eight tons to the team. The river banks are fast filling up with sacks of grain which extend from a quarter of a mile above Butte City to one mile below. Yesterday two steamers with a barge each left Butte City for Port Costa and one arrived and is loading. Among those who are shipping by water this year are P. R. Garnett, Henry Stone, Fred Quint, Hon. John Boggs, and nearly all of the farmers residing east of the railroad track extending the whole length of the county. Besides the saving in freight, shippers by water gain in weight, and it has long been a wonder to us that the river has not been more liberally patronized by our grain growers."

Farmers' Institute in the South.

A Farmers' Institute is in progress at El Cajon this week with the following named speakers in attendance: Professor A. J. Cook of Pomona College, Professor E. J. Wickson of the University of California, Berkeley; C. H. Sessions, president of the southern California Dairymen's Association, and Professor W. R. Shaw of Stanford University.

The following report of the first day's proceedings comes by telegraph and is taken from the daily papers: W. H. Somers of El Cajon delivered the address of welcome and Professor Wickson responded. He offered the facilities of the State University to farmers who desired to ask any questions or to present any suggestions for experiment. G. M. Hawley of El Cajon read a paper on "Deciduous Fruits." He advocated irrigation, cultivation and proper thinning. A small quantity of fruit of superior quality he believed to be more profitable than more of a poorer grade. Choice fruit is larger and commands a better sale and is just as cheaply raised. Less fruit on the tree also conduced to longevity and health.

Professor Wickson discussed pruning of deciduous trees. He said the short days and wet weather of winter made it too expensive to prune in winter, as formerly. Now the work should be done early and be over by November 15th. Pruners had better go slow if the trees are summer irrigated and vigorously growing; but if the leaves have turned, it is safe. One prune grower gets better fruit by allowing only a few limbs and letting them grow long, but local conditions may affect this practice.

C. H. Sessions read papers on "Economy Feeding" and "Dairying," both proving very valuable. A resolution was adopted favoring woman suffrage.

Profit and Loss at Rancho Chico.

On Thursday last Col. Royce, manager of Gen. John Bidwell's Rancho Chico, entertained the State Board of Equalization at Sacramento with a recital of figures showing the profits and losses on the Gen. Bidwell estate. In a number of instances there had been a great loss in marketing fruit. In a tract of 3800 acres of wheat land, assessed at $55.89, the income showed only 8 per cent on a valuation of $15 per acre. On another of 700 acres, assessed at $23 36 per acre, the income was 8 per cent on a valuation of $17 per acre. On an orchard of 110 acres three years ago they lost $1858 and paid $324 taxes. Two years ago they lost $5900, and this year $7000.

"But you don't always have such losses?" suggested Mr. Morehouse.

"Oh, no," quickly and reverently responded the Colonel; "thank God for that!"

Sugar Beet Talk at Woodland.

Mr. P. W. Morse, assistant superintendent of the Watsonville beet sugar factory, spent a few days at Woodland last week, to make a personal study of the soil and climate and to look into all the conditions surrounding the experiment of beet culture in Yolo county. Just before leaving Mr. Morse held a sort of informal reception at Diggs' store and talked freely to the many farmers who came to meet him. Reporting this talk, the *Democrat* says:

Among other things, he told them that they had in their experimental efforts made many mistakes. In the first place, the beets ought to have been planted earlier and not more than 20 inches apart, so that they would shade the ground. The cultivation had not been so thorough as is required.

Mr. Morse said that, if the test proved satisfactory, Mr. Spreckles would require a guarantee that 30,000 acres would be planted to beets, as that area is necessary in order to keep in operation a factory of 3000 tons daily capacity.

He gave some interesting information concerning the advantages that would accrue to Yolo county as the result of the establishment of a sugar beet factory. In order to operate a factory of the capacity above named, it will be necessary to distribute about $17,000 daily in the community in the purchase of beets, fuel, limerock and labor. In operating such a factory it will not be necessary to send away from home for anything. All the beets, fuel, limerock and labor can be obtained in abundance in Yolo county.

What is necessary for the prosperity of the county and for sustaining the fertility of the soil is a rotation of crops. Mr. Morse is confident that Yolo county can produce 30,000 acres of beets every year without cutting down the yield of wheat in the least. By alternating beets and wheat the farmer will be able to obtain the best results without impoverishing his land. It will therefore be necessary to convince Mr. Spreckels that there are not less than 60,000 acres of land in Yolo county which will produce beets of a good quality.

In Memory of George Ohleyer.

At a meeting of the State Anti-Debris Association held at Sacramento on Tuesday the following was unanimously adapted:

Resolved, That we, in common with all the people of the Sacramento valley, deeply deplore his death. We shall miss in our councils his calm judgment and in our work his vigorous efforts. He was a man whose honesty and fidelity of purpose no one ever questioned, who was devotedly attached to the interests of the Sacramento valley, who possessed a knowledge of the many intricate questions connected with the suppression of injurious hydraulic mining shared by few, and who freely gave all his strength of mind and energy of purpose for the protection of those among whom his lot was cast. In every walk of life, in every position to which his fellow citizens called him he was honest, faithful, true, and he leaves behind him an honored memory that those who were his comrades will ever cherish.

A Test Case.

A case of considerable interest, in connection with the tuberculosis inspections now in progress, was begun on Monday in a San Jose justice court. It appears that nine cows belonging to the Sullivan dairy, on the Alum Rock road, were tested and condemned by the inspecting officer and were ordered killed. The owners hesitated in the matter and an officer was sent out to the dairy to do away with the infected animals. He was curtly informed that the animals were not there, and the presumption is that they were sold to butchers in San Jose, though Sullivan refused to make any explanation. With the idea of bringing the matter to a test, the inspector has had Sullivan arrested on a charge of refusing to surrender diseased and condemned cattle. For this offense the law prescribes a fine of not less than $300 and imprisonment in the county jail not less than 100 days. The case will probably come to trial this coming week.

Pith of the Week's News.

THE Valley Road reached Fresno on the 19th inst.

THERE will be two Republican State tickets in Idaho—one gold and the other silver.

HILBORN has been renominated for Congress by the Republicans of the third district.

THE Knights of Pythias have determined to establish their fraternal "Home" at San Diego.

BOTH the universities are full to overflowing with students. The registration at Stanford is upwards of 1500.

THE Democrats and Populists of Idaho have determined not to fuse. They could not agree upon a division of the offices.

AND now the Philippine islands in the southwestern Pacific ocean threaten to rise against Spain and claim their independence.

SIX HUNDRED and sixty funerals were held in New York and Brooklyn one day last week, nearly all the dead being victims of hot weather.

SENATOR JOHN H. MITCHELL of Oregon, for many years a devoted free-silver advocate, announces his loyalty to McKinley and will take the stump in his support.

THE Oregon Democratic State Committee has withdrawn the name of Mr. Sewall as a candidate for the Vice-Presidency and substituted that of Watson of Georgia, the Populist candidate.

THE Populists and Democrats in the State of Washington have fused. U. S. Senator W. C. Squire, Republican candidate for re-election this winter, is apparently leading the combination. It is suspected, however, that if the Populist-Democrats win they will find a man of their own for the Senatorship.

THE Republican Presidential campaign was formally opened in California last Saturday night by a big mass meeting in San Francisco. George Knight, B. F. Carpenter, Senator Perkins, Irving M. Scott and others spoke, and there was cheering and music more than enough. No date has been fixed for the formal opening of the Democratic campaign.

THE situation in Cuba is very pitiful. Both sides are exhausted and powerless to do anything more than mere guerilla fighting, but neither shows the least disposition to knock under. In the meantime all industry is at a standstill and poverty is universal. There are said to be serious dissentions among the officials of the patriot government.

MONDAY morning of this week the Stoneman House in Yosemite valley burned to the ground with the bulk of its contents. A defective flue is supposed to have been the cause. This hotel was built by the State in 1888 at a cost of about $40,000 and was insured on State account for $15,000. The construction of this hotel by the State was an act of stupendous folly and it is not likely to be repeated.

LI HUNG CHANG the great Chinese statesman is now on the Atlantic enroute to America. He will spend a few days in New York where great preparations have been made to receive him and from there will return home via Canada and Vancouver. He will not visit California. President Cleveland will come from his country home to New York to meet Li Hung Chang and will receive him at the residence of Ex-Secretary Whitney.

HOKE SMITH of Georgia, Secretary of the Interior in Cleveland's cabinet, has resigned on account of political differences between himself and the President. Smith will support the platform and nominees of the Chicago convention, and this does not suit Cleveland. Ex-Gov. Francis of Missouri, a gold Democrat and a warm personal and political supporter of the President, has been appointed to the vacancy. Smith stumped Georgia in the gold interest, and may find it a little difficult to get into line for Bryan and free silver.

IT has been a very busy week with the Presidential candidates. Mr. Bryan has spent most of the time in New York at Hudson river points, and has spoken again and again to the crowds who come out to greet him. On Tuesday, at Albany, he was the guest of Senator Hill and later addressed a vast assemblage from the steps of the State House. Mr. McKinley has staid quietly at his home in Canton, Ohio, but has received each day visits from large delegations representing special productive interests. One day it was ironworkers, another workers in clay, another farmers, and so on. To each he has made a speech in which the particular interest represented has been fully discussed. Neither of the candidates has as yet given out his formal letter of acceptance, though both are said to be complete.

THERE promises to be a general representation of the Eastern, Western and Pacific States at the coming convention of gold standard Democrats to be held at Indianapolis; and the general opinion is that independent candidates for President and Vice-President will be named. This does not imply, however, that special electors will be put up in all the States. California, for example, will be represented at Indianapolis, but it is a foregone conclusion that there will be no special ticket in this State. The Indianapolis movement is frankly designed to help McKinley by drawing Democratic votes away from Bryan. One possibility is that the gold Democratic candidate to be named at Indianapolis will be withdrawn upon the eve of election. Many names have been put forward in connection with the Indianapolis nomination, but the situation is not sufficiently developed to justify prophecy of a personal kind.

Gleanings.

BROWN & MCARTHUR'S wool pullery at Benicia burned to the ground on the 20th. Loss $1000.

ZICOVICH'S fruit warehouse at San Jose burned to the ground last week. Loss $500. A fine horse died in the flames.

AFTER a thorough inspection by the county veterinary, the Los Gatos district is pronounced wholly free from tuberculosis.

THE Yolo county fair opened on Monday. The chief attraction is the racetrack, and a fine lot of racing cracks are competing.

AT Healdsburg the hop-picking season will soon begin, but there will be few picked, comparatively speaking, as most of the yards have been grubbed out.

THE Chedister bridge over Merced river collapsed on Wednesday of last week under the weight of a band of cattle. Something more than a score of cattle were killed.

C. P. WALTON, a well-known fruit grower of Sanger, has been exhibiting a peach weighing 21½ ounces, and challenges the State to beat it. It is of the Orange Cling variety.

A SUGAR BEET agitation is on at Sacramento. Experimental plantings will be made and if they demonstrate the fitness of the Sacramento district, Mr. Spreckels promises a factory.

THE Walnut Growers' Association will meet at Los Angeles, Sept 15th, to fix prices for the season. The walnut crop of California amounts to about two hundred and fifty cars, and the greater part is controlled by the association.

THE Alvarado beet sugar refinery began the season's run on Monday. The run this year will be much longer than previous ones, as the acreage of beets is greater, Contra Costa sending in many carloads. Active work will continue through five months.

FRESNO *Expositor*: "Reports from the county fruit ranches and vineyards state that the Japs are rapidly displacing the Chinese. They are quicker to learn English, work for even lower wages than their fellow Mongolians and wear the costume of the land they live in."

THE Wine Makers' Corporation announces that it is prepared to make advances to its members to the extent of three cents per gallon at the interest rate of 8 per cent. In this connection the dry wine makers are urged to arrange as last year in the purchase of grapes to pay one-third cash on delivery, one-third in three months and the balance in six months.

THE San Benito *Advance* reports that "Gaston M. Ashe has traded A. Colwell, a thoroughbred Berkshire boar for a thoroughbred Maltese Tom, with a registered pedigree. Mr. Colwell has the finest stock of Maltese felines owned by any breeder in America. Crossed with the domestic cat, the Maltese are exceedingly useful in destroying squirrels, and Mr. Ashe will raise a sufficient number to supply every tenant upon the Santa Anita with a few cats."

SONOMA *Index-Tribune*: "L. Modini, proprietor of the Garibaldi House, has growing on his premises a row of tobacco plants 100 feet in length. The seed was planted last April and the growth has been most wonderful. The plants vary in height from 6 to 8 feet and the leaves are simply immense, some of them measuring 3 feet in length and 15 inches in breadth. The leaves are almost free from imperfections and will make the finest kind of leaf tobacco."

SAYS the Wheatland *Four Corners*: "We Californians may think we are having a hard time with 80-cent wheat, 5-cent hops, plenty of mortgages and an unsurpassed climate, but it would appear we cannot compare with the residents of Nebraska. A personal letter received this week from Custer county, Neb., says that the wheat land is turning off but six bushels per acre, and good wheat is selling in the Nebraska market for from 28 to 30 cents. Oats turn off eight bushels and sell for 8 cents a bushel. Hogs sells at 2 cents a pound."

WATSONVILLE *Pajaronian*: "Salinas has had her beet acreage committees rustling this week. The showing of acreage contracted was not satisfactory to Claus Spreckels, and last week he notified the Salinasites that he would give them ten days more in which to secure the needed acreage; and if they fail to reach the limit within that time the factory will be located elsewhere. The fact that Mr. Spreckels has purchased and leased a vast acreage of land in the vicinity of Salinas does not insure the erection of a factory at that place, though some of the Salinasites appear to have fallen into the error of thinking so. It would not be much of an addition to the Watsonville factory to fit it to handle all the beets from the Spreckels lands in the Salinas valley in addition to the beets from regular points of supply. We hope that Salinas will get the acreage and the factory."

Valley Railroad Rates.

Special commodity rates on grain were issued by the Valley Railroad on Wednesday of last week and went immediately into effect. They cover the territory from Burnham, ten miles beyond Stockton, to Patterson, 109 miles beyond that point. The rates from Burnham and Escalon are a reduction of 10 cents, while they are new from Turner, Marguerite, Sharon, Miller, Lankersheim and Patterson. It is expressly stipulated that the quotations beyond Stockton are subject to changes in traffic arrangements with carriers by water from that point. Following is the schedule, it being for grain carloads of 24,000 pounds and upward, and the rates quoted being in cents for a ton of 2000 pounds, the destination at Stockton to warehouses to which access is provided for Valley Railroad cars, and the San Francisco rates applying to Nevada dock, Port Costa, Crockett, Benicia and South Vallejo as well:

From—	*To Stockton.*	*To San Francisco.*
Burnham	50	100
Escalon	80	130
Clauston	110	160
Empire	110	160
Hughson	125	175
Elmwood	140	190
Gracey	170	220
Merced	170	220
Turner	175	225
Geneva	180	230
Le Grand	185	235
Marguerite	190	240
Sharon	190	240
Miller	200	250
Lankersheim	200	250
Patterson	205	255

It is understood that the Southern Pacific will shortly issue reduced class rates applying to points between San Francisco and Stockton in the San Joaquin valley.

Rapid Spread of a Noxious Weed.

(A. W. R. in Napa *Register*.)

A very few years ago there appeared near Union station along the sides of the road leading to the Trancas a new variety of thistle. This was its first appearance in Salvador district, at least there it was first noticed by the writer. No attention was paid to this new weed and the light seeds tipped with downy feathering borne by the wind and water, rapidly spread, not only along the roadside far and near, but into adjacent fields.

So rapidly is this terrible weed pest spreading that farmers in the locality mentioned may well be alarmed. Too long have these weeds grown undisturbed. The time has come when strenuous efforts must be put forth for the eradication of this thistle, else in a very few years whole farms will be covered with its greedy roots and wide-spreading branches.

The proper name of this thistle is unknown to the writer. By some it is called the Sonoma thistle, as the seed is said to have been brought here from that valley. It has evidently been introduced into some fields by using manure in which stubble straw, utilized as bedding in stables, has been used.

This new enemy of the farmer waits until the late summer or early autumn months before it makes its annual appearance. At the present writing, the middle of August, these weeds have made a good growth and are in full bloom. Coming so late in the season they cannot be destroyed by the late spring plowing, even. Summer-fallowing land, or planting it to corn, is the only way to eradicate it when once it has a firm hold.

It is of a deep green color, is a vigorous grower, having a long strong tap root and has yellow blossoms, surrounded by numerous long spines which greatly irritate the flesh they pierce. By the hard, unplowed roadside they will gain and retain a firm footing. One plant, the product of a single seed, recently pulled by the writer within a few inches of the well-worn Trancas lane, bore three hundred blossoms, each of which had sixty seeds. This gives eighteen thousand seeds from a single plant. From an adjacent stubble field one of these thistles was gathered which was eight feet in circumference, two feet high, with a tap root nearly one foot long. At the least calculation this one thistle had twenty thousand seeds.

Is it any wonder these weeds propagate and spread so rapidly? If left undisturbed they will completely cover stubble and hay fields, depriving the farmer of all fall feed, for cattle and horses will have nothing to do with them, and even sheep and goats shun them.

Some fields near Union Station are rapidly succumbing to this despised pest, because the owners are not alive to the danger, or are too negligent to eradicate the weeds. Adown Trancas lane for some considerable distance the thistles have marched.

Bad Outlook for Fresh Fruits Trade.

(Sacramento *Record-Union*, 23rd inst.)

It has become altogether too apparent that the shipment of green fruit to a distant Eastern market cannot be depended upon to return a profit to the fruit grower in California. We make this statement with even painful reluctance. One of the causes obstructing the profit to the fruit grower is the rate of commission. Seven per cent on the gross becomes a very large percentage of the net return to the grower. For instance, if it costs 75 per cent of the gross proceeds of the sale of a carload of fruit to carry it to Chicago, or any other Eastern market, it would leave but 25 per cent to be returned to the grower. Seven per cent of the gross would be 28 per cent of the 25 per cent, which the grower would receive to reimburse him for the cost of growing, picking, boxing, etc.

The commercial instrumentalities—all things considered—are not adequate to the movement of a commodity as perishable as green fruit. We have heretofore advised a different or better distribution, so that Eastern markets would not be glutted; but our people do not seem equal to the task of devising any different method from that which has been pursued.

It follows, then, that the orchards of California will have to be grafted to varieties of fruit suitable for drying and canning, thus reducing the green fruit shipment East, if not eliminating it altogether. In this way the orchard industry may be preserved; but in no other way, so far as we are able to discern. Already many of the leading orchardists are proposing to change their varieties by grafting, and we are disposed to think the sooner this is done the sooner the orchards will become producers of fruit which, in the preserved and more imperishable form, may bear the shipment necessary to reach its final market. The experiment that is being made with shipping fruit to England has not been and we do not believe it will become satisfactory. It involves the shipment of a very perishable article over a line too long for safety. Delays which are necessarily incident to shipment over so long a line will deprive the undertaking of steady legitimate profit.

An effort should be made to introduce canned fruits into England, instead of fruit in its green form; that is, to substitute canned fruits for the green fruits. It is a cheaper and slower method, and in this direction we may still entertain the hope that California may become the orchard of the world.

Intellectual Tournament at the State Fair.

The suggestion recently made to the State Board of Agriculture for an intellectual tournament at the coming State Fair has borne fruit and a series of addresses on live topics will be among the interests of that occasion. Mr. W. H. Wells with whom the idea originated, has worked out a plan acceptable to the board and under which the tournament will take place.

Following are the rules under which the debate will be held, as submitted by Mr Mills:

1. The discussion of public questions before the board shall not at any time take the form of a debate.

2. The discussion of any subject by any speaker shall be limited to the effect of the policy advocated upon the people of the State of California.

3. The following shall constitute the questions which shall be discussed, one address to be delivered on each day, except as otherwise provided:

How would the policy of high protection affect the welfare of the people of California?

How would the policy of a tariff for revenue only affect the welfare of the people of California?

How would the policy of a modified tariff, supplemented by an income tax for the purpose of raising Federal revenue, affect the welfare of the people of California?

How will the free coinage of legal tender silver at the ratio of 16 to 1, without the concurrence of other nations, affect the welfare of the people of California?

How will the free and unlimited coinage of legal tender silver at the ratio of 16 to 1 by international agreement affect the welfare of the people of California?

How will the permanent establishment of the single gold standard affect the welfare of the people of the State of California?

How will the construction of the Nicaragua canal peomote the welfare of the people of the State of California?

How may California secure a re-enforcement of her her capital and population?

[NOTE.—The two last mentioned subjects will be discussed on the same date.]

How will the proposed amendment to the State Constitution abolishing the tax on mortgages affect the welfare of the people of California?

How will the defeat of the proposed amendment abolishing the tax on mortgages and the maintenance of the Constitution in its present form affect the welfare of the people of California?

How will the proposed amendment to the Constitution of California relating to woman suffrage affect the people of California?

How will the defeat of the proposed amendment and the maintenance of the provisions of the Constitution of this State, limiting the exercise of suffrage to male citizens only, affect the interests of the people of California?

(Note.—The amendments to the Constitution being State issues, the discussion of each has been assigned to a single day.)

What adjustment of the debt owed by the Pacific railroads to the Government of the United States would best promote the welfare of the people of California?

(Note.—Two addresses to be delivered in answer to the last-named question.)

4. The addresses shall be delivered in the State Agricultural Pavilion at Sacramento, commencing at 10 o'clock in the forenoon, and the admission shall be the same as ordinary admission to the pavilion—25 cents.

5. During the delivery of the addresses the exhibits shall be deemed to be closed to visitors, and the audience will not be permitted to disturb the addresses by walking through the Pavilion; but it is expected that auditors will be seated.

6. The audience will be permitted to manifest approval by decorous applause, but in no case will any manifestation of disapproval be countenanced.

7. No political banner or device relating to the political campaign will be permitted to be carried or displayed by any member of the audience.

8. The names of candidates before the people for election to office shall not be mentioned, and cheers or demonstrations of favoritism will not be permitted.

Auditors are earnestly solicited to heartily second the effort of the State Board of Agriculture to have the discussion of these important questions before them as a jury of American citizens, conducted with non-partisan decorum.

The board will confer with political committees upon the question of the personality of those who will address the people upon these political and economic topics, but it reserves to itself the right of final selection.

The board will appoint a presiding officer for the proposed meetings, who will be vested with authority to call any speaker to order who transgresses the rules hereby established and enforce upon the audience a courteous and decorous attention.

Weather and Crops.

Summary of the Report of the State Weather Service for the Week Ending 24th Inst.

Climatic conditions of the week have been good for all growing crops. Fruit drying and grain threshing have been retarded by the excessive moisture in the air during the early forenoons.

The great meteorological phenomena of the past ten days have been the electrical storms with heavy thunder and vivid forked lightning, which killed one person at Pomona on the 16th and produced cloudbursts in the mountain regions of San Bernardino county, causing washouts in many places and injuring, to some extent, the orchard regions of that county.

On the 18th there were heavy electric storms along the coast from Pacific Grove to San Francisco, with heavy rains at Salinas.

On the 19th heavy thunder and lightning storms passed over the southern portion of Yolo county, with heavy rains lasting about fifteen minutes, killing a mule and stunning a driver to such an extent that he did not recover sensibility for several hours.

On the 22nd the severest thunder and lightning storm ever known passed over the town of Marysville, striking several buildings. On the same day an extremely severe thunder and lightning storm passed over the mountain regions of Placer county at Summit, Emigrant Gap, Blue Canyon and Cascade, with hail falling to the depth of nearly four inches.

Taking both July and August of this year they have been rather phenomenal months. There have been heavy and unusual dews, which have discolored the drying fruit in the Santa Clara and Vacaville valley districts, and have prevented grain threshing from being carried on until late in the early morning. Such heavy dews in July and August are said to be by the oldest inhabitants premonitions of early rains during the coming fall.

Sacramento Valley Counties.

BUTTE COUNTY (Oroville).—The orange crop of this county will be as good as last year.

COLUSA COUNTY (Sites).—Harvest is about wound up for this season. Wheat has turned out from eight to ten sacks to the acre and is of first-class quality.

YUBA COUNTY (Wheatland).—Hop picking began on Thursday. The hops are in good condition; the absence of heavy foliage assures the pickers a chance to place more pounds to their credit than in ordinary years.

PLACER COUNTY (Auburn).—Orange and olive crops will be very light.

SACRAMENTO COUNTY (Folsom).—Tokay grapes are ripening fast, and the red spider is doing much damage to the almond trees. (Galt)—In another week the bulk of the grain crop will be in sacks. (Sacramento)—Highest and lowest temperatures the past week were 93° and 57°, with a sprinkle of rain on the 18th. The weather is all that could be desired for the growth and maturing of all summer crops.

SOLANO COUNTY (Pleasant Valley).—Very little fruit is being shipped. Drying yards are rapidly filling. The greater part of the pear crop is still on the trees and will hang until the prices improve or they fall from the trees. (Vacaville)—The peach crop is a good one, and the pear crop in the valley is quite large and in many cases the trees are loaded.

Napa, Sonoma and Santa Clara Valleys.

NAPA COUNTY.—Grape crop rapidly maturing and will be much better than expected. (Calistoga)—Grape crop promises to be much larger than was anticipated; other fruit crops will be light.

SONOMA COUNTY (Healdsburg).—Grapes are ripening earlier than usual. The sweet-wine makers will need all the grapes they can get. Owing to the very small prices paid by the canneries, the most of the fruit will be dried. (Peachland)—The grape prospects have much improved and a good crop is now looked for. Hops are in the burr and are maturing well.

ALAMEDA COUNTY (Niles).—Early peaches are about cleaned up. Egg plums are scabby and hard to sell. Prunes are being gathered rapidly, but they will be of small size.

SANTA CLARA COUNTY (Santa Clara).—Prune drying has begun and the crop is reported to be a good one.

SAN BENITO COUNTY (Hollister).—In orchards that have not been sprayed the codlin moth is doing considerable injury to apples, pears and quinces. Orchards which have been sprayed two or three times are not suffering so much.

San Joaquin Valley.

SAN JOAQUIN COUNTY (Lodi).—The grain harvest is about over; the crop is above the average and has been secured in good condition.

FRESNO COUNTY (Fresno).—The weather still continues good for maturing of the grape crop and for fruit growing. Highest and lowest temperatures, 102° and 63°, with a trace of rain on the 17th.

TULARE COUNTY (Lime Kiln).—Farm work is progressing favorably. Citrus fruit looking well. Highest and lowest temperatures, 105° and 66°. (Tulare)—New raisins will be on the market in a comparatively short time. (Traver)—The rush of fruit cutting is drawing to a close and the grape harvest will soon be on. Fruit dries very slow this year. (Visalia)—The harvesting of the fig crop has begun in earnest.

Southern California.

SANTA BARBARA COUNTY (Carey).—Beans on the mesa will be almost a total failure. (Ballard).—Grain output is a little below that of 1895 but the quality is generally better. (Santa Barbara).—Lima Beans have begun to be harvested in some of the little valleys in the Coast Range of this county. This is an unusually early date, but nearly everything else is proportionally early this year, although there may be an exception in regards to walnuts. While it has been reported that the walnut crop is extra early in some sections, and that some paper shells are dropping now, there is no indication that the regular walnut crop will be ripe for gathering much before the regular time. A full crop is expected but the size will not be up to that of last year.

VENTURA COUNTY (Saticoy).—The walnut crop will be a very light one. On some trees that are bearing quite heavily it is noticed that the top limbs are drying out and the walnuts are shrivelling for want of moisture. (Ventura).—The smaller beans are being harvested and the Lima's are ripening rapidly.

SAN BERNARDINO COUNTY (Ontario).—The fruit growers are unanimous in saying that they never knew the orchards to look as well as they do now for the season of the year.

ORANGE COUNTY (Santa Ana).—The orange crop in this county will be a light one for the year 1896-1897. One of the largest growers estimated the product at about one half of a fair crop or less than half of a full crop. Another large grower and dealer said he had a full crop but that the crop was not generally good.

Coast Counties.

HUMBOLDT COUNTY (Eureka).—The continued drought is beginning to be felt quite severely especially in garden truck and dairying.

SAN LUIS OBISPO COUNTY (San Luis Obispo).—The bean crop on the upland cannot recover from the set back it had from the previous bad weather.

Mountain Counties.

MODOC COUNTY (Adin).—A good apple crop is looked for in this county but a short supply of other fruit.

SISKIYOU COUNTY (Yreka).—The yield of grain is about the average.

HORTICULTURE.

Investigations of Olive Varieties at the State University.

Now that the olive crop is beginning to ripen in the hotter parts of the State, it is timely to call attention to the work of the experiment station at Berkeley in the study of olive varieties. It must be remembered that the olive industry is a new one in this State. Though there is believed to be some six millions of dollars to-day invested in olives, and though we have nearly a hundred varieties of olives now growing in the State, nevertheless little is definitely known of the regions best suited to olives, still less of the varieties that are best suited to the regions. While this may not impress some with the importance of the subject, yet it is a live question to those investing their capital in olives.

OBLONGA OLIVE TREE ON UNIVERSITY GROUNDS, BERKELEY.

The University Experiment Station has clearly shown that there are varieties that, while they fail in one region, will do most excellently in others. Thus it was found that the Rubra olive in one county gave but 14% of oil, yet the same variety in another county gave 34%, and in the same counties with the Uvaria olive the conditions were reversed. If we stop to think that the oil maker should pay for olives for oil making, not according to *size*, but according to the *oil richness*, (just as the manufacturer of beet sugar buys his beets, paying, not for weight of whole beet, but weight of sugar therein contained,) we can form some idea of the importance of having this subject fully and scientifically investigated.

But it is not alone for the oil maker that these investigations are important; he who would plant olives for pickles reaps just as much benefit as the producer of olives destined for oil alone. It has been shown that while a certain variety in one county will be of a certain size, (size being an essential for good pickles), in another county it will be less than one-half that size.

Samples of Olives Desired.—The University has for some years back been making what investigations the limited means at its disposition rendered possible. In order to render these investigations of the fullest possible value, it is necessary for the olive growers to co-operate with the University by placing at its disposition the material necessary for study. The University needs samples of every variety of olive grown in California—not merely in one part of the State, nor merely for a single year, but, until the subject has been most thoroughly investigated, it needs samples each year. Thus far it has often required three or four long begging letters from the University to get a sample. This should not be. Each olive grower, especially those in new regions, should send a *fair, honest* sample of every variety he has, and, if the same variety be grown on very different soils, he should send two samples of each to the Agricultural Experiment Station, Berkeley. *If not more than one pound, nor less than one-half pound* be sent, the University will pay the expressage thereon. Samples should be picked when the olives are a *deep wine red*, packed carefully in small wooden boxes, labeled "Olives," with name of sender, and a letter should accompany them, giving details as to soil, climate, exposure, irrigation, pruning, etc.

It might be well to note that, from the work done at Berkeley, we know that as a general rule European olives do better in California than in the countries in which they originated, thus showing that California is pre-eminently "the land of the olive."

The literature published by the University is most practical and embraces investigations of the highest importance to the olive grower. The accounts have been copied in foreign countries and are the fullest of their kind found in any language.

The large "queen olive" of Spain, or, properly speaking, the Sevilliano, in California not only is larger than in Spain, but it contains *more oil*. This has been found by actual analysis.

ARBORICULTURE.

American Nut Growing.

NUMBER X.

WHITE AND BLACK WALNUTS.

The butternut (*Juglans cinerea L.*) is native over an area that differs but little in extent from that covered by the black walnut. It extends farther east and north, however, and is not found so far to the south and west. It is found from southwestern New Brunswick westward across Maine, Quebec, Ontario, the lower peninsula of Michigan below latitude 44°; Wisconsin below Green Bay, northwestward to the neighborhood of Duluth, Minn., and the headwaters of the Mississippi river, southward across central Iowa, Missouri and southeastern Kansas into the Indian Territory. Its southern limit reaches the Arkansas river and extends across Mississippi and Alabama to the eastern base of the Blue Ridge mountains, reaching the Atlantic coast near Norfolk, Va. The tree is found most abundant and reaches its highest development in the Ohio river basin. There are relatively few sections where it is reported as an abundant forest tree, and in some localities within the area of its native growth it is found to be a difficult tree to grow under cultivation, though in general the nut germinates readily and the tree grows rapidly. It is not suited to prairie situations, as the trunk often sun scalds quite as badly as does that of the Persian walnut. In forest growth it is not commonly an

abundant bearer, but finds its greatest fruitfulness in open groves and along fence rows. Trees bear a few nuts at from seven to twelve years of age, and increase annually until, as some reports state, there are single trees of large size that yield from 15 to 20 bushels of nuts in a season. Reports mention a noticeable difference in size, also in the cracking qualities of the butternut, and it seems desirable that care should be exercised by growers to select for propagation the best types of this nut. In flavor and quality of kernel the butternut is second only to the shellbark hickory and pecan among our native nuts, and is worthy of more attention than it has received.

In curing care should be taken, as with the black walnut, that no grit gets into the rough shells, for it materially lessens the attractiveness of the nuts in market and damages both their value and sale.

Were it marketed in larger quantities it would probably be able to win its way more readily into favor. The person who will supply its meats fresh and in clean, convenient form for culinary and dessert uses will have little trouble in stimulating a demand. Possibly some improved method of cracking the shells and removing the meats, or the discovery of some "sport" that will afford a thin-shelled variety, will be necessary to bring the cost of preparing them within the limits of a popular price. In its green state it is used for pickling and for catsup much the same as is the Persian walnut. The ripened nuts sell for about the same prices in the local markets as are obtained for black walnuts, varying from 20 cents to $2 per bushel. From correspondents reporting the yield of butternuts per tree we note the following data: Indiana, from ¼ to 40 bushels; Connecticut, ½ to 20 twenty bushels; New York, 1 to 20 bushels; Vermont, 1 to 20 bushels; Michigan, 1 to 15 bushels. From most of the States reporting, and in a majority of reports from all the States, the yield per tree is below medium in quantity, and the tree is not listed among those producing profitable crops. George P. Peffer of Pewaukee, Wis., reports a butternut tree which at sixteen years old produced 6 bushels of nuts. This may be considered the maximum under good culture.

Several instances of supposed hybrids between the butternut and the black walnut and butternut and Persian walnut have been reported. Arthur K. Harrison states there was at one time in Columbia county, N. Y., a butternut tree which bore fruit externally normal, but which contained a solid cylindrical kernel some three-fourths of an inch long, pointed at the ends. This variation was possibly due to abnormal blossoms.

Black Walnut (*Juglans nigra L.*).—The black walnut is one of our most widely ditributed and most valuable forest trees. It is found native from southern Vermont westward through New York, Ontario, Michigan and Wisconsin to St. Paul, Minn., southward across Iowa, Nebraska, Kansas, Indian Territory to southern central Texas. It is not found along the Gulf or southern Atlantic coast. The forestry report of the tenth census states that the tree reaches its greatest development on the western slope of the southern Allegheny mountains and in the rich bottoms of southwest Arkansas and Indian Territory. The nut has an oily meat of peculiar flavor which is less popular than that of many other nuts. As expressed by a writer in *Orchard and Garden*, 1891, page 69, "the black walnut is among nuts what bacon is among meats—strong and greasy." Doubtless part of the popular prejudice against it in the market has arisen from the notoriously bad methods which prevail in gathering and marketing it. The nuts are often left exposed to the weather for several weeks after gathering, either before or after the hulls are removed, and in either case many of them become discolored and moldy. The rough shell becomes filled with grit, so that it is very difficult to keep the kernels free from sand while cracking and removing them.

Harvesting the Wild Nuts.—The nuts should be gathered soon after they fall from the trees, and the hulls should be at once removed. This is easily done by running them through an ordinary corn sheller, which tears the covering loose, so that the nuts can be readily picked out by hand. They should then be exposed to the sun on a clean roof till thoroughly dry, and stored in a cool, dry place to prevent rancidity. Black walnuts thus handled will be found to have a whiter, sweeter kernel than those commonly found in the market.

Profits from Planting.—Concerning the possibility of reaping profits from black walnut plantations much has been written and predicted, but very little has been actually proven except that, for the nuts alone, such plantings have not been profitable. The conclusions of two growers who have made field experiments throw some light on this disputed subject. B. Hathaway, Little Prairie Ronde, Mich., writes: "I have 100 trees, planted thirty years ago; I gather nuts generally from part of them, though it seldom pays for the labor, so far as I gather for market. There seems to be but little demand; could I get 50 cents per bushel for them by the quantity, barreled, on board cars, it would pay something, but less than apples by half."

J. V. Sweeny, Omaha, Neb., says: "I have been experimenting in walnut cultivation on a moderately large scale for the last eight years. I am located in central Nebraska—the land of the prairies—where it was once thought that the trees would not grow. I bought my walnuts from a neighbor, who himself planted the seed only twelve years ago from which these grew. I paid $1 a bushel for 25 bushels that were produced on less than an acre of land. There are $25 per acre for his crop, in addition to a year's growth of the trees on land that could not be sold for $15 per acre without the timber. No cultivation or care whatever after the first four or five years, except pruning, is necessary. My experience leads me to make the following suggestions: First, any land that will grow corn will grow walnuts. Second, they thrive best on low, damp soil (not, of course, where water stands around them). Third, nuts should be left on the ground, not in piles, until the husk has rotted off. Piling is apt to result in heating the nuts. After the husk is off they can be stored until used. Fourth, for planting, either spread on the ground and cover with light mulch, so they can freeze readily, or plant at once where wanted to grow. Fifth, plant about 2 inches deep, 4 feet apart, in rows that are also 4 feet apart, so they can be cultivated like corn. If seed is scarce or expensive, make the rows 8 feet apart and put a row of corn between. Sixth, trim them every year, with the purpose in view of growing tall, straight trunks. Seventh, cultivate until trees are high enough for their shade to prevent weeds from growing. Eighth, when they have become so large that they crowd one another thin them out, saving most vigorous and straight trees as much as possible. Ninth, I want to impress every one who grows walnut and timber trees with the importance of frequent trimming. But trimming must be done for a purpose, and with intelligence. The object sought is a tall, straight trunk. Too much trimming retards the growth, therefore never cut off a limb unless that limb is turning the body to one side, or is growing faster than the upright body, in which case I think it preferable to prune the branch enough to retard its growth and let the upright trunk get a start. Tenth, don't think you are too old to plant trees; if you are fifty years old you are liable to live to see each tree worth $50, and perhaps to have sold $50 worth of nuts off of each tree. Eleventh, never transplant a walnut or hickory tree. Their long taproot makes it almost impossible to do this without injury. You will get a tree quicker by planting a nut where you want a tree, and will have much less work about it."

Propagation.—From the fact that but little variation has been found in either size of nut or thinness of shell there has been but very little incentive to propagators, and but little has been done in propagating the black walnut except by the growing of seedlings. It is sometimes used as a stock for the Persian walnut, and for this purpose it is likely to have increasing value in the future.

TRACK AND FARM.

Horses Again in Demand.

A year ago those farmers—and there were thousands of them, says the New York *Times*—who had been making most of their money raising common or "railroad" horses were about the bluest class of men in the United States. To-day they are again in good heart, their eyes are bright with the sparkle of hope, and their steps have the buoyancy that is characteristic of successful men. Then they were convinced that the industry in which their capital was invested, and from which they had won their profits for years, was doomed; that they must abandon forever the one business to which they had devoted their lives, and with which they were familiar, and seek other ways to make their farm productive. Many of them, indeed, sold their horses at a big sacrifice and closed out without ceremony. Now they are beginning to go into business again, their pastures and paddocks are once more being brought into use, and they are satisfied that the outlook is full of promise.

This most desirable change in the status of a great industry has been brought about so gradually that few persons not directly engaged in the horse business know anything about it. Its cause, according to Mr. William F. Doerr, one of the best known horse dealers in the United States, has been the apprehension—somewhat tardily shown, to be sure—by the English of the facts with regard to the horse market in the United States.

The English Buyers.—"It was some time last year," said Mr. Doerr, in conversation with the writer a day or two ago, "that our friends on the other side began to send their buyers over here. They had never done so to any extent before. Possibly this was in some degree because they did not favor American horses, but chiefly for the excellent reason that American horses could never before be bought nearly so cheaply as those of foreign breeding. The first English agent went at his buying, perhaps, with some hesitation. But he soon became confident, for he found not only that the prices at which he could buy here were much below the current prices abroad, but also that the American horses were hardier, more enduring, and, grade for grade, better looking than the English animals.

"The first shipment of consequence was sent over rather early last year, and as soon as the horses were seen and tested there a rush of English buyers to the States began. Ever since then the shipments have been constantly increasing. I do not believe the traffic has even yet reached its height, since there are at least one hundred English buyers now in the land picking up horses wherever they may. Seven or eight hundred horses are now being sent over every week, and I should say the total shipments of railroad horses to England this year is likely to reach 25,000 or more.

"How do they use these horses over there? To haul tram cars with. The English have not yet adopted electricity on their tram lines to any extent. Their adoption of street cars in the first place was slow, and, although they are now using them more freely, they are still behind as to the method of hauling them. Some American horses are being used for other purposes, I suppose, but not many. The grade of horses which we formerly called 'railroaders' are so much better adapted to tram work than any other sort that they are practically all snapped up for that purpose.

"Prices? Well, the American railroad horses cost, delivered over there, from $125 to $175. This, of course, includes the commissions of the English buyers and the American agents, the transportation cost to the seaboard and the ocean freight. No, prices of railroaders have not gone up on this side, for the reason that there is now not much demand here for that grade of horses. They are still bought for delivery wagons, light trucking, etc., but the call for such purposes has not been large enough to cause a rise in prices."

Boston a Great Shipping Point.—Curiously enough, according to Mr. Doerr, the larger proportion of the American horses sent to the English market is shipped from Boston, as better terms can be got from the steamship people from the Hub than from New York. It is true there are occasional shipments from New York, and more from Philadelphia, but Boston has the bulk of the shipments at present. They are sent as cattle are sent, on vessels especially fitted up for that purpose. It costs $17.50 to send a horse across the water on a steamship. Horses are good sailors as a rule.

From its geographical position Chicago is the most natural center for the gathering together of great numbers of horses. Illinois produces many horses; Indiana, Missouri and Iowa are all contributary States; Kentucky, the great horse State, is not far away; and there is a perfect vortex of railway transportation facilities centering at the lakeside metropolis. Accordingly many of the English buyers are at present making Chicago their headquarters, and are much in evidence at the big daily horse sales there. The scenes at these sales are full of interest and the various contrasts afforded by the mixing together of Western horse breeders and their men, Chicago selling agents and cockney horse buyers produce a crowd not entirely without value to the discriminating observer of "types."

Buffalo is another city of some importance in the new trade in horses. It is the point at which they are transhipped on their eastern way to the sea, and it is a gathering place for Canadian-bred horses and some that have been bred in Ohio and western New York; so, in Buffalo, as well as in Chicago, many English agents gather to buy in the market that has been established for horses in a portion of the old-time stock yard.

Horse Crop Takes Time.—"Although the breeders of horses have begun again in earnest," continued Mr. Doerr, in his talk, "it will be four years at least before the effect will be much felt on the market here. In the meantime prices will go up—they will be higher, in my opinion, than they ever have been. I do not mean that 'railroad' horses will bring much higher prices, for reasons which you already understand. In fact, in a few years there will be no 'railroad' horses to speak of for sale here, since the new horse breeding era is to be conducted along other lines. American breeders are at last finding out what fine horses are. They have been learning from the horse shows, the influence of which has been far-reaching. They have been learing, too, from bitter experience.

"When the trolley came, and with it the bicycle, and with them both the slump in prices of the cheaper grades of horses, the price of first-class horses never wavered. In fact, handsome, sound carriage and coach horses were never so high as now in this country. It is almost impossible to get them. This is because the folks who have money to spend use horses now just as much as they ever did. They may have their 'wheels' for fun, but they want their horses and carriages for solid show all the same, and they want better ones than they ever wanted before. Why, there are plenty of beasts going abroad now to haul tram cars that would have been thought elegant carriage horses ten years ago.

Coach Horses.—"Good coach horses range now

THE HOME CIRCLE.

A Voice From the Ranks.

A-savin' of my country?—well, I guess I've
done my share!
I've 'tended every meetin' that they got up
anywhere;
I have helped the oratory by remarkin' of
"hooray."
An' I've singed my hair an' whiskers at the
fireworks display.
I keep a-doin' jes' the best I can,
But it's all fur disappointment thet I plan.
Fur republics is ongrateful,
An' I'm gittin' sorter hateful;
Where I uster truly love my fellier man.
A-savin' of my country? Ain't I sot up late
an' talked,
When I see there was a prospeck of my party's
getting balked?
Ain't I argyed long an' carnest fur this land
so proud an' free—
An' wasn't Asa Billings made postmaster,
'stead o' me?
Yet I never failed to rally roun' an' shout,
Though I think it's somethin' to complain
about,
Thet they don't give any pensions
Fur a-goin' ter conventions
An' a-yellin' till yer lungs is tuckered out.
—Washington Star.

Our Own.

The shoemaker, busy from morn till night
With pegs, and awl, and lapstone, and leather,
Scarce raises his head until candle-light
To mark the changes in wind or weather.
At other folks' soles he cobbles away,
Making or mending—he may not choose—
Yet they of his household complainingly say
The shoemaker's children can have no shoes.

The milkman is stirring before the dawn,
For milking-time must begin so early;
Bonniface, Dorrit and Crumpled-horn,
Brindle and Buttercup, Snowdrop and Curly,
Give down their portions; the cans are all
filled
For wives in homespun and wives in silk,
If any is lacking, or any be spilled,
The milkman's children go without milk.

The stranger who comes for a single day
To sit at our table, is given our best,
How gracious and courteous the words we
say!
How ready our smiles at his feeblest jest!
Let it be so! Sweet Charity teaches
Not that we give to our guests alone!
Our kindest smiles and our gentlest speeches
Are none too good to bestow on our own.
—Joy Allison.

Old Man Dawson's Illumination.

School was over; out trooped the scholars, bent on using limbs and throats to the utmost.

"I like to hear 'em beller," said poor old man Dawson, from his coign of vantage across the square.

It was Hi Loomis who led the "beller" so cheering to old man Dawson, and it was Hi (his active mind finding limited scope in the school-room) who led the pranks without. Folks gossiped finely about that foolish "widder" Loomis, who gave her son his head so freely, and "wouldn't take no advice as to his management, even from the minister." Something pretty bad would come of it; once let a boy like Hi take the bit in his mouth and where would she be? But you might as well groan at a stone wall as try to darken the cheery smile of Widow Loomis. "I can head him off when I'm a mind to," was her invariable reply. So mother and son went their own way, the son keeping the folks in gossip at least, as he possessed inventive genius equal to his activity, combined with powers of generalship, which held all the boys of Middlebury an admiring crowd at his heels.

Now this sunny afternoon Hi felt inclined for something out of the common run of daily entertainment. Truth to tell, he had had an encounter with the last imported teacher and had not got the best of it. The feeling of respect for his superior, hitherto a foreign element in his school experience, choked him; he'd got to let out or explode! Thus, heading across the square, awake for entertainment, his roving eye caught sight of old man Dawson, who sat, as usual, on the porch of his son's cottage, leaning on the stick he held in both hands, his head raised a little to watch the merry lads as they raced towards him.

"Why, what's the matter, Daddy?" cried Hi, coming to a full stop, as he saw traces of tears on the withered cheeks.

"Want to go to the party," said old man Dawson, putting up a shaking hand to wipe away the tears.

"What party, eh!"

"Over to Jim's. All on 'em be gone. Little Tom, he wanted me to go, but *she* [his son's wife] said I couldn't."

"Why, that's too bad," chorused the boys.

"I know," piped up a lad. "It's a kind of christenin' over to Middlebury Center, and I guess it was too much trouble to dress up the old man and take him."

"Tom says he'll bring me back a cooky for my supper. I ain't eat dinner yet," said old man Dawson, rubbing away another tear. "He says p'r'aps they'll have ice cream to the party. I ain't hed no ice cream, seems to me, in fifty years. *She* says it don't suit me—but it does. It suits me real well."

"I tell you," said Hi, "it's just shameful the way his folks treat that old man. I've just been peekin', and what do you s'pose they've done?—they've locked up the house and just left him a pitcher of milk and some crusts on the back porch."

"She said I might eat when I'm a mind to," said the old man, childishly, proud of such liberty; "but I 'spose I ain't hungry 'nough."

By this time the impatient boys were staring at Hi, drumming their heels into the ash-path, and otherwise deploying their insubordinate muscles. The limitations of their sympathies were narrow; they were tired of talking to the old man whose accustomed figure seated thus in the porch was one of their earliest recollections. They all knew his story by heart—what a splendid soldier he had been, how he had displayed such bravery during the war—had saved the life of his general, and, as he carried him out of the thick of the fight, had been wounded in the head. He was carried to the hospital, and when discharged came back to his native village a mental wreck, with his mind simple and childlike, gentle and biddable, but his day of active usefulness over forever. He was stranded on the tender mercies of his son's wife, who was a hard woman. Irritated by the presence of this helpless member in her family, she said cruelly sharp things in his hearing, which, though mercifully slipping away from his treacherous memory, left behind a sting in the feeling that he was unwelcome in his son's home. His grandchildren, who loved him as little ones, neglected him as they grew up and observed their mother's attitude towards him. His son Joe was kind enough, but powerless to curb his wife's tongue. He had wished to take his father to the christening party, but Mrs. Joe willed otherwise. Grandpa's eyes, red with unshed tears as the buggy drove away, left an uncomfortable ache in the son's heart, and he ventured to remark an hour later: "I wisht we'd brought the old man, he gets so few outings."

Mrs. Joe's reply and the ensuing war of words made the drive to the Center anything but a holiday jaunt to the parents or children.

"I say, boys," said Hi, "let's do something for the old man."

"Can't think of nothin' to do," from the chorus. "Can't stand round here chirkin' him up till his folks get back!"

Hi was grinning from ear to ear.

"We'll do something better than that," said he. Then he said a few words in a low tone. The immediate result was pantomimic—heads down, heels in the air, to an accompaniament of shrill whistling and cat-calls. Daddy Dawson thought it was done for his entertainment, and chuckled loud and long.

"Go ahead, Hi!"

"Daddy, we're goin' to give you a 'lumination and a percession," said Hi, "soon as it's sundown."

"Be you, boys?" The innocent, trustful tone was infinitely pathetic had the lads only realized what this grand old man had been before the war.

"And you're to come to our house and eat supper," continued Hi. "You know Widow Loomis' lot, don't you?"

The old man smiled radiantly, then bethought him.

"Did your mother say so, Hi?"

"*I* say so," said Hi, grandly. "I'm off to tell her to get a good supper. I shall be awful hungry myself. Me and the boys has got work to do by supper-time."

"Do you s'pose she'll have beefsteak for supper?" asked the old man. "I ain't had beefsteak for supper, seems to me, in years."

"Beefsteak, hot cakes and coffee, that's what she'll have," pronounced Hi. "When you hear the town clock strike five, you go over—that's you."

The boys went whooping away across lots to the pine woods, and the old man sat smiling to himself, his anxious eyes watching the slow-moving hands of the town clock opposite, which had to make their circuit twice before the bell would strike five times.

The townsfolk passing exchanged a few kindly words with the old man, but it had been reserved for the harum-scarum Hi to probe the wound that had given the hero of former days such a sore heart this noon.

"My folks is out; I'm goin to eat supper with Widow Loomis," was his happy boast.

At last the clock pointed to five; he counted each stroke with bated breath, and then set off across the square—very slowly, for his fine figure was bent, and one leg dragged painfully. He had not far to go, however, before he came to the gay little garden, flaunting with blossom, and he stood there looking over the palings, as though the cottage had been a Paradise. It was *so* long since he had sat at a festive board, or any one had *wanted* his company. Suppose Hi's mother should be sharp with him, and tell him to go home? No! old man Dawson, again a child in instinct, knew that Hi had a kind heart and would not bring him to shame.

"Come right in," called a cheery voice from the porch. "I'm real glad to see you. Hi said you was coming. He won't be in till supper-time, but come in and set down in this big chair, and you can visit with me."

She beat up the cushions to make him more comfortable, and, taking her knitting, sat on the step at his feet, chatting in a friendly way that kept the old man happy and smiling every minute.

The sun sank low in the heavens, and the widow went away to get supper; and the old man, sniffing the fragrance of the coming feast, fell into a series of pleasant dozes.

The return of the boys through the village awakened him. Hi came back triumphant, too full of fun to sober down enough to get that sum done which his new teacher had made a point of for to-morrow.

Supper was indeed a success—beefsteak, coffee and hot cakes smoked upon the table. The old man ate heartily, with a child's enjoyment of the good fare, and then, while Hi "wrastled" with his lessons, he sat and babbled to Widow Loomis, and the sun set.

Then there was a whooping and helloing from every point of the compass, and all the boys of the town collected at Hi's gate.

"We're goin' to give him a 'lumination and a percession," said Hi to his mother. "The boys and me been getting plenty pine-knots, and we want all the music we can git. Ain't you a tin can or a tray to lend?"

Then, after marshaling his men, Hi ran back to the cottage. "You set there, grandpa," he said, placing the chair in a good position to command the square. "You'll see it all. We're just going to light up. Come along, boys!"

"Want to go, too," said the old man, pitifully.

"But you can't go. You can't march, you know," said Hi, kindly enough.

"Yes, I kin! You play 'Marching Through Georgy' an' you'll see ef I can't march, boys!"

The fire of better days flashed in his eyes, he straightened himself up, and stood all attention, with eager eyes on the boy general.

"Let him go," urged the widow; "it'll make him so happy."

So the procession started, old man Dawson at the head—for a few steps. But the pace rushed him; the procession came to a sudden stop, and Hi was seen helping the old man to drag himself back to the garden gate.

Now, as nothing can ever be kept a secret in the town of Middlebury, by this time the citizens in sympathy with their boys' desire to do honor to the old soldier had turned out into the square. So when the old man fell out of rank some colored brethren came to the fore and spoke to the boy general.

"Wait a minute, boys! Pete says they'll carry him. Mose is gone for a chair," and before old man Dawson had recovered his breath his swarthy friends hoisted him on their shoulders and carried him off at the head of the procession.

Hi set the finishing touch to this moment of rapture by putting a tin pan in his lap and a drumstick, with a request to beat time. Away they went up the town and over the hilly streets—trumpets, conch shells, tin whistles, pails and trays—one grand hullabaloo, in joyful accompaniment to America, Yankee Doodle and all the patriotic songs the boys could "beller." One by one the citizens fell into rank and swelled the procession as it passed them by. The women, not to be left out, set lights in the porches and windows. The town was brilliantly illuminated. What thoughts rambled through the old man's brain in this hour of triumph who shall know! Stooping, he asked his bearers:

"Boys, did I kick the goal?"

And the kindly Pete answered back understandingly:

"Yes, massa! You done kick the goal."

"Land sakes! What's come to the town?" cried Mrs. Joe, from the buggy on the hilltop.

"A percession and 'lumination!" cried little Tom.

"In honor of a hero," answered a voice from a distant fence. "It's growed into a kind of indignation meeting. Guess his folks 'ull have to brace up and do what's right by him after this—or make tracks from Middlebury."

'Twas a bitter bill to Mrs. Joe!—Ada M. Trotter.

Gems.

Nothing surely is so disgraceful to society and individuals as unmeaning wastefulness.—Rumford.

The best thing to take people out of their own worries is to go to work and find out how other folks' worries are getting on.—Mrs. A. D. T. Whitney.

Despise not any man, and do not spurn anything. For there is no man that hath not his hour, nor is there anything that hath not its place.—Rabbi Ben Azai.

Education is leading souls to what is best, and making what is best of them. The training which makes men happiest in themselves also makes them most serviceable to others.—Ruskin.

Grace leads the right way; if you choose the wrong, take it and perish, but restrain your tongue; charge not, with light sufficient and left free, your wilful suicide on God's decree.—Cowper.

To do great hurt, some genius, some knowledge, some talents, in short, natural or acquired, are necessary; less, indeed, far less, than are required to do good, but always some.—Bolingbroke.

One cannot too soon forget his errors and misdemeanors. To dwell long upon them is to add to the offence. Not to grieve long for any action, but to go immediately and do freshly and otherwise, subtracts so much from the wrong.—Thoreau.

If we look down, then our shoulders stoop. If our thoughts look down, our character bends. It is only when we hold our heads up that the body becomes erect. It is only when our thoughts go up that our life becomes erect.—Alexander Mackenzie, D. D.

Hope.

They say the name of the station is changed, and the dog is dead, but I remember, and I think I shall remember always.

In a sharp V of a valley between two tall, unheeding mountains, stood a little brown station, all alone. It looked like a knot in the end of the brown rag of road that hung over the low ridge beyond it. "Hope" was the name in the middle of the weathered sign-board, with "Winnipeg, — miles," at the nearer end, and "Vancouver,—miles," at the farther.

There was small token of life about the building so far as even we in the observation car could see, so when the conductor came back from the office with his orders we wondered why the train did not go on. But pretty soon a tall old man with a red flag under his arm came up from the track ahead to the station platform. Some of us had alighted, and to us he volunteered, while he rolled his flag closer:

"Rock on the track."

"Is it very large?" asked some one.

"Nope; they'll get it off pretty soon; like 'nough in 'bout ten minutes."

That accent was unmistakably from the "States," and I came nearer where I could hear all he said. He sat down on a pile of boxes and in reply to some remark said meditatively:

"Nop, trains don' hev much 'casion to stop here long nowadays. Used to be a purty decent mine up yonner," jerking his head toward the little road; "then they war some doin's here."

"Mine abandoned?"

"Eaup," he was going on, when another idea struck him; he looked around uneasily.

"They hain't none o' you seen Rolly, hev you?"

"Who's Rolly?"

"W'y, Rolly, he's the dorg;" his eyes grew anxious; "he's a great institution 'round these parts, Rolly is."

He rose and went quickly to the door of the station, opened it and put his head inside. We heard the click of the telegraph instrument.

"Say, Bennie, where's Roll?" he called. His voice was different from that in which he spoke to the men outside. The answer was inaudible.

"Humph! Curious, ain't it? When did he go?" Again the inaudible reply.

"Well, he must a 'heard the whistle."

He came back to the travelers, but with his eyes on the brown road over the ridge.

"Didn't it pan out?" asked one,

"Huh? Oh, the mine! I dunno, I guess 'twould ef—" but the old idea was too strong—his eyes sought the slope again. "Now where in time is that dorg? He hain't use' to missin' trains."

"What was the matter at the mine?"

"Oh, there was ghosts came there, 'n that scart everybody, 'n now they won't no one go nigh but Rolly, and he'd come anyhow."

"Well, what is it about Rolly, my friend, is he your dog?" asked a big, quiet man standing near with his wife.

"Nope. That is, he is and he ain't—one way he's mine and two he ain't—one way he's mine cause I feed 'im and hanker after 'im ef he ain't 'round. One way he ain't mine, he's Bennie's, cause everything I've got that Bennie hankers after is hisn, an' he thinks a heap o' Rolly. Bennie's the telegraph here.

"'Nother way he ain't mine nor Bennie's neither. He hisself thinks he b'longs to a man 't hain't been 'round here quite a spell — the last contractor at the 'Hope.' He left in a leetle hurry one night, bein' found with some mine pay-money mixed into his own inside pocket by mistake, 'n he forgot the dorg."

One traveler, acquainted with Western euphemisms, asked:

"Did they hang or shoot him?"

The old fellow grinned.

"Shot 'im; sent the remnants East in a box. We han't lookin' for 'im back, but Rolly is. Yes, sir, he's on hand every train, an' between times he goes up to the mine to see ef his man has slipped by unbeknownst an' gone up there."

Just then the conductor, passing, said:

"Nearly ready; all aboard."

We started reluctantly for the car, all of us with our eyes on the brown road now. The old man walked with us.

"Can't think what on 'arth keeps 'im. He'll cry all day ef he misses this train."

We were all on board now. The conductor stood, watch in hand, his eyes too an the road.

"There he is!" some one shouted.

"He knowed he was late an' took the short cut," exclaimed the old man.

Our eyes left the road, and at the other end of the platform met a small, smooth-coated, black-and-white mongrel, all dusty and panting, crouched with quivering flanks by the steps of the last car, a Pullman.

The dog's eyes were on the porter. The porter looked to the conductor for a sign; the conductor looked at his watch and his orders and nodded. Then the porter lifted the eager little brute into the car vestibule.

We in the observation car all waited with eyes on the door of the nearest Pullman; all but the quiet man who had retired into the front corner of the car behind his newspaper.

"Blest if I want to see the beast disappointed," he said to his wife.

"Does he go through the whole train?" I asked the old man.

"Yes, miss, all but the col'nist car and the em'grant; he knows that hain't the kind."

Just then the Pullman door opened and the porter came through, followed by the dog, stepping high and nervously There were a great many in the car and the dog was bewildered. The porter picked him up and put him on one of the seats, a double row of which ran back to back down the center of the car. The dog put his paws on the back of the seat and looked all around, ears up, nostrils moving, flanks quivering, tail straight out and slowly waving.

Suddenly he gave a sharp yelp and bounded over the center seats down the aisle like a tornado and stopped with both paws on the quiet man's knees, yelping, dancing, tearing the newspaper down upon himself.

The man took the paper away and the dog leaped toward his face with a squeal. But the squeal broke half way, and the dog fell back on all fours, still as a stone. The quiet man looked at him kindly and put out a hand to pat him. The dog came closer, his eyes always on the man's face, and softly put his paws on the knees again. The man said:

"Well, Rolly!"

The dog's head went on one side a moment, the name was all right, but the voice—the voice—

He got down and backed off, his tail between his legs, his ears wavering; he gave one low, questioning whine, then slowly answered the porter's call.

At the top of the car-steps he paused and came back. With head on one side and paw raised he looked again, and then with a sharp sort of bark turned back and went down.

A moment afterwards the conductor's watch snapped; he waved his hand and the train drew out, up the broad coynon of the Chanting Bow. But our eyes were all turned back to the platform, where the dog stood, poised, head on a side, and foot lifted, looking after us.

The quiet man didn't draw back till we had rounded a curve; then he found a cinder in his eye.

"Nice scenery," he said. — New York Post.

"Now, look here," said the professor to the infuriated bull, "you are my superior in strength; I am your superior in mind. Let us arbitrate the matters and see which should by right have the better of our controversy." "Oh, no," replied the bull; "let's toss up for it." The professor lost.

An Atchison mother has a novel plan for getting her girls to come home early from parties and entertainments. The last one out every night has to get up first the next morning and start the fires and get breakfast. It works like a charm. In the race to get in early none are out late.

Fashion Notes.

Laces and fluffs of all kind play an important part in the neck touches for summer evening gowns.

Accordion-plaited black lisse capes are being worn on the warmest days, with rich trimmings of point lace or guipure.

Vandyke collars of ecru and white batiste, trimmed with lace and insertion, are made to wear over thin summer gowns.

White gowns are to be worn more than ever this season for informal as well as dressy occasions, and these are accompanied by white hats, shoes and parasols.

Little boa-like arrangements of puffed and knotted lace or net are handy and bewitching scraps for coolish evenings on porches or to throw around one's neck after dancing.

Parasols are unusually pretty, and fashionable women are fond of investing in a variety of patterns. One of the daintiest is made of white silk covered with exceedingly fine chiffon.

Leather belts are embroidered with gold and silver beads, and white kid belts, set with blue enamel traced with gold, are the latest fancy. Ordinary webbing is used as a foundation for elaborate embroidery and jeweled decoration.

Lovely dotted Swiss waists have large bishop sleeves, with a collar band and cuffs covered with rows of the narrow yellowish Valenciennes lace; large revers extending over the shoulders and a center box plait also trimmed with the lace.

A charming little gingham, which is one of a seashore outfit, is cream in color, with a lace stripe of blue, which is a pretty trimming in itself, though the gown in question has a large sailor collar, waist front and finishing to the sleeves of plain blue gingham. White duck, with some touch of dark color, is exceedingly effective. Then the duck "does up" so well, which is a high point in its favor.

A useful box that may hold ties or long gloves begins with pieces of cardboard, which, lined with quilted satin, are sewn together to form the box. The lid is made from two diagonal pieces. The outside may be covered with cretonne brocade or some pieces of embroidery, the edges finished with a quilling of ribbon or ruche of pinked-out silk. A bow and loop are put on the right-side piece of the cover, forming the opening of the box.

Bits of Fun.

Mrs. Sequel—I understand that your husband can't meet his creditors. Mrs. Equal—I don't believe he wants to, especially.—Truth.

German Friend—De bicture you haf bainted is most butiful; dere is only von vord in the English lanckgidge vich describes it—and I haf vorgotten it.—London Tid-Bits.

A Georgia man claims to have written seventy poems in thirty days. Well, seventy to thirty is a ratio that no lynching party can respect.—Atlanta Constitution.

"Mosquitoes are hateful, aren't they?" "Yes; I don't mind their eating me if they didn't keep up such an everlasting complaint about the way I taste."—Chicago Record.

"Sister McGinnis, you must exercise patience with your husband's infirmities." "Dr. Fourthly, the weather is too warm for such exercise, and I won't!"—Chicago Tribune.

The *Church Times* says that on a recent Sunday in a church in Dublin the choir was startled during the singing of the psalm by the appearance of the organ blower's head, who shouted out, "Sing like blazes; the bellows is busted!"

A traveler asked a man with a wooden leg, "Were you a member of the army?" "Yes, sir," was the reply. "I was membered by a recruiting officer, dismembered by an artillerist, and remembered by a wooden leg manufacturer."—Journal.

DOMESTIC ECONOMY.

Hints to Housekeepers.

A well-known medical authority says in a recent work that cheese should be eaten at least once a day. "It is the most valuable animal food obtainable," he says, "from two to three times as nutritious as the same money value of ordinary meat.

Mildew may be removed first by brushing off any loose mildew, then rubbing in common salt, afterwards sprinkling with powdered chalk and moistening with clean, cold water. After this dry slowly in the open air, rinse, and if the marks are still there repeat the process. It may be necessary to do this several times, but in the end the spots will be removed.

Cracks in floors, around the skirting board, or other parts of a room, may be neatly and permanently filled by thoroughly soaking newspapers in paste made of one pound of flour, three quarts of water and a tablespoonful of alum, thoroughly boiled and mixed. The mixture will be about as thick as putty, and may be forced into the cracks with a knife. It will harden like papier mache and the floor will be as smooth when new.

Blankets washed in the following way are soft and light as new: Dissolve one tablespoonful of pulverized borax and one pint of soft soap; make a strong suds in cold water; put in the blankets and let them remain all night. In the morning work them up and down with the hands and put them into another tub of cold water; rinse them through three waters and hang them up without wringing. When they have hung a little while turn them half round. Choose a sunny day with some breeze.

Pieces of stale cake may be used in the following way: Make a custard by putting one pint of milk over the fire in a double boiler. Beat light the yolks of three eggs and add to them three tablespoonfuls of sugar and a generous pinch of salt. When the milk comes to the boiling point, put in the egg mixture, stirring all the while. Cook until it just thickens and remove from the fire at once. Flavor with vanilla, and place where the custard will get cold. Just before serving time beat the whites of the eggs very ligh and stiff and gently stir them into the custard. Meanwhile soak pieces of stale cake in sherry and put them in a dish. Pour over them the cold custard, and scatter over the top fresh grated cocoanut or blanched almonds shredded.

Recipes.

WATERMELON PICKLES.—(very nice)—Select a firm, fine-grained melon with thick rind. Trim off the green and all the pink pulp. Have ready a weak brine of one tablespoon of salt to two quarts water. Boil watermelon rind till tender. Let cool and drain several hours in colander. Make rich syrup of vinegar and sugar to cover pickles—say four cups vinegar, one cup water, three cups white sugar (some like brown sugar) and handful stick cinnamon. Boil down till thick and rich. Put in fruit cans the same as preserves.

PEACH ICE CREAM.—One of our chief justices, a man upward of 70, always shouts as joyously as his grandchildren when peach ice cream appears at the family table. And this is the way to make it: The day before you wish to use it boil three pints of cream, break ten eggs and put the yolks into a bowl; beat well and sweeten with one cup of granulated sugar. When the cream has reached the boiling point pour at once into a bowl over the yolks of the eggs. Stand in a cool place until the following day. Mash one quart of peaches through the colander, sweeten to taste and put in the custard prepared the day before. Flavor with two teaspoonfuls of vanilla and freeze. After freezing repack the bucket with ice and salt and allow to stand two or three hours before using. Cut some cantaloupes in halves, fill with the ice cream and serve at once.

Becoming Effects in Taffettas and Serges.

OF CHECKED TAFFETA.

975—Espinato Corsage.

Sizes for 34, 36, 38 and 40 Inches Bust Measure.

A popular design for an independent waist, or to complete a costume. Our model is of black and white checked taffeta. It has a little fullness at the waist only, in the back, and is plain across the shoulders. The full fronts open to disclose a chemisette of plaited chiffon or white satin, for which, if either is too trying, jetted black net over white satin can be substituted. The revers, collar-points and trimming of shoulder-tabs and sleeve-wrists are of grey satin overlaid with Venetian point-lace. Any of the popular and seasonable fabrics may be chosen for this model, with any preferred contrast.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

A LITTLE MAID IN BLUE.

995—Nachita Frock.

Sizes for 6 and 8 Years.

The continued favor of sailor frocks for little girls renders new and becoming designs very popular. This quaint little maid in our illustration wears a dark-blue serge brightened with red and gold soutache, which bands the V chemisette, trims the sailor collar and skirt, and borders the belt. The plain, full skirt is finished with a deep hem and sewed to the waist in gathers. In the back the fullness of the waist is laid in plaits and a fitted lining holds the fullness in place. This model is commended for serge, flannel and heavy cotton fabrics.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

FOR SOCIAL OCCASIONS.

968—Alexandra Coat.

Sizes for 34, 36, 38 and 40 Inches Bust Measure.

A very smart coat of taffeta silk and a skirt of fancy crepon complete this costume. The coat is the "Alexandra," and its chief claim to distinction is in the becoming jabot front; very full and fluffy neck dressing and elaborate arrangements on the fronts of corsages being a distinctive feature of the season's modes. The coat is fitted in the back with the usual seams, and flares in godet fullness in the skirt. The broad revers are of black satin, embroidered and finished on the edge with a frill of white chiffon. The jabot is made of overlapping frills of lace or chiffon, and folds of chiffon pass under the velvet collar points and fasten under a very fluffy bow of lace and chiffon. The skirt is the "Khiva," which is described below.

967—Khiva Skirt.

Sizes Medium and Large.

This is an exceedingly graceful design, having seven gores, and measuring about five and a half yards around the bottom. It fits the figure trimly at the top, and the fullness in the back is gathered, allowing it to fall in easy folds. This model is used for the skirt illustrated. Both lining and outside are cut by the same pattern and mounted to one belt, but they are seamed and finished at the foot separately.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

A YOUNG GIRL'S BASQUE.

961—Virginia Coat-Basque.

Sizes for 12 and 14 Years.

This smart little coat-basque is intended either to complete gowns of fancy or smooth-surfaced wools, or to be made of velvet, silk, or batiste, to wear with various skirts. The model is of changeable taffeta, with blouse front of batiste. Straps of black velvet ribbon are fastened at the bust with rosettes to the waist. A row of gilt buttons runs down from the rosettes to the waist. The back is fitted with the usual seams, and the skirt flares gracefully. There is a fancy for making these little coats of brown or blue serge, to wear with skirts of checked cheviot and rough tweed, making useful every-day and traveling gowns. Any style of skirt may be used with this basque.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

An instrument, intended for the arrest of bleeding in surgical operations, has been perfected by Lawson Tait. A platinum wire, arranged to carry a current of electricity, is inclosed in the blades of a pair of steel forceps or any other requisite instrument, the wire being insulated by a bed of burnt pipe clay. A current of suitable voltage is turned on, the artery seized and compressed, and in a few seconds the tissues and arterial walls are so agglutinated that the passage of blood is rendered impossible. The temperature employed is about 180° Fahrenheit, so that it will be seen that the principle is fundamentally different from that of electrical cauterizing instruments.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING AUGUST 11, 1896.

565,666.—Baling Press—A. Barrett, Puyallup, Wash.
565,828.—Carbureter—D. Best, San Leandro, Cal.
565,426.—Curling Iron Heater—Bowman & Kerr, Mt. Vernon, Wash.
565,611.—Wheel Tire—H. J. Dykes, Peralta, Cal.
565,617.—Window—J. J. Hall, Los Angeles, Cal.
565,765.—Writing Pad—W. T. Martin, Dayton, Wash.
565,497—Miner's Implement—T. J. Murray, Grub Gulch, Cal.
565 503.—Tank—F. H. Pfluger, Portland, Or.
565,569.—Pipe Cutter—Roberts & Hollister, Downey, Cal.
565,801.—Railway Rail Plate—C. J. Schenck, Gila Bend, A. T.
565,802.—Faucet—C. J. Schuster, S. F.
565,517.—Car Coupling—W. Shay, East Portland, Or.
565,805.—Air Ship—C. A. Smith, S. F.
565,698.—Hose Clamp—C. Sparks, Pacific Grove, Cal.
565,646.—Force Pump—A. W. Thierkoff, Redding, Cal.
565,654.—Cream Separator—T. Willing, Astoria, Or.

Note.—Copies of U. S. and Foreign patents furnished by Dewey & Co. in the shortest time possible (by mail for telegraphic order). American and Foreign patents obtained, and general patent business for Pacific Coast inventors transacted with perfect security, at reasonable rates, and in the shortest possible time.

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Patrons of Husbandry.

The Late Geo. Ohleyer.

The Record of a Busy and Useful Life.

The *Sutter County Farmer* of the 21st inst. contains the following account of the life and death of the late George Ohleyer:

Hon. George Ohleyer, one of the most prominent men in this part of the State, died at his home near Yuba City last Saturday evening at 10:30 o'clock.

The sad news of his demise came like a shock to his many friends, who were rejoicing that he was apparently recovering from the amputation of his leg made on the previous Thursday. His condition was considered very favorable, and only a short time before his death he was talking to his wife in his usual cheerful manner. Later he dropped off to sleep. Mrs. Ohleyer, who was sitting by his bedside, suddenly noticed a change and called the nurse, but their efforts to arouse him were in vain, as he had peacefully passed away as he slept. The immediate cause of his death was from a clot forming in his heart, probably brought on by the shock of the amputation.

George Ohleyer was born in Alsace, France, in 1831; came with his parents to the United States in 1833, to Wayne county, N. Y., removing to Ohio in 1835; came to California in 1852 and engaged in mining for a short time, then worked on a farm in Solano county for two years and returned to Ohio. In 1856 he came back to California and settled in Yuba county, where he lived until 1865, then removed to this county, residing here since that time. He was married in 1855 to Miss Ellen Guthrie of Ohio, who survives him. The children, all of whom are living, are four sons and three daughters—George, Fred, Frank and Lewis, Mrs. Anna Hausinger, Mrs. Mary Frick and Ada.

The public life of the deceased was one of active service in whatever position of honor and trust he was placed. A careful, conscientious and untiring worker, he was recognized as a man of more than ordinary wisdom and ability, and given a place in the foremost ranks in public affairs. In 1874 he was elected Supervisor of the county and served one term, and was also a Commissioner of Levee District No. 1.; was a member of the State Constitutional Convention, and served Sutter and Yuba counties in the Legislature from 1886 to 1888.

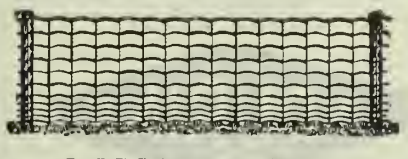
In the service of the valley in the struggle against the hydraulic mining evil he was one of the "fathers of the anti-debris movement," and since its inception he was closely identified with the work, and gave his time and best thought to the benefit of the cause. Among the first of the organizers of the old Anti-Debris Association of the Sacramento valley he served faithfully as its manager during the active life of that body, and was then placed on the Executive Committee of the State Anti-Debris Association, which has continued the work. For the anti-debris cause and the improvement of the rivers of the State he has made three different trips to Washington and his able efforts there among men of the nation is conceded by all as resulting in much good. In connection with this service, with other prominent men here, in 1881 he organized the Sutter County Publishing Company and founded the *Sutter County Farmer*, being editor of the same until 1890. Since that time he has continued as a fluent and able writer to the press of the State.

To local enterprises and organizations he contributed freely his time and funds, and his progressive business ideas, strict integrity and sound judgment were much sought for. He was one of the founders of the Farmers' Co-operative Union of this place, and was a director and secretary since its organization, serving also as its manager for twelve years. He was also interested in the cannery and publishing companies for many years and various other business enterprises besides his large farming interests. His work in fraternal societies was confined mostly to the Grange, being a charter member of Yuba City Grange No. 65, P. of H. In this Order he devoted a share of his time, particularly in late years, and at the time of his death he was Worthy Lecturer of the State Grange.

Mr. Ohleyer was among the first members of the California Press Association and was also an honorary member of the Sacramento Valley Press League.

The deceased was a self-made man, kind and generous hearted, honest, unassuming, patient and painstaking in all that he undertook to do. In public and business life were his many good qualities paramount, yet in his home was the most noble of the man brought out; an ideal home, where he was justly proud of his wife, sons and daughters, who in turn idolized the devoted husband and kind and loving father. The heartfelt sympathy of the entire community goes out to the grief-stricken relatives in their sad bereavement.

The funeral took place Tuesday afternoon, services being held at the residence at 1 o'clock. Long before that hour sympathizing friends from far and near gathered there to pay the last sad respects to the departed and speak words of comfort to the family. Rev. J. W. Buxton preached a short funeral sermon and the remains were followed to the grave in the South Butte cemetery by one of the largest corteges ever witnessed in this county. By request of the family there were no floral offerings, and only a sheaf of wheat rested on the casket, emblematic of the life of the deceased. At the grave the beautiful ritual service of the Grange was read by Worthy Master of the State Grange W. W. Greer, assisted by Miss Josie Walton, Chaplain of Yuba City Grange, and all that was mortal of a true Patron of Husbandry was laid to rest. The pallbearers were G. W. Carpenter, Justus Greely, J. H. Kimball, L. P. Farmer, W. J. Gray and T. B. Hull.



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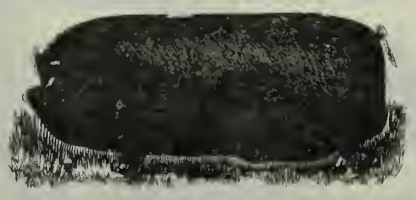

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Coast Industrial Notes.

—Washington State sawmills have quit buying logs "till after election."

—Boring for oil has been begun by the Pioneer Oil Co. at San Bernardino, Cal.

—It is again announced that active work will be begun on the Monterey & Fresno Railroad.

—There are over 200 carts at work grading the new railroad between Sisson and the McCloud river.

—The stockholders in the Truckee ice palace are already making preparations for next winter's carnival.

—The first through train from Stockton to Fresno over the S. F. & S. J. V. road arrived in Fresno on the 14th.

—The call for bids for supplies for Mare Island Navy Yard includes 242,000 feet of seasoned Oregon pine for ship deck plank.

—Creosoted lumber is now used in building and rebuilding piers at the city water front; $25 per M feet is the latest contract price.

—The money necessary for a bonus for the proposed cold storage and power plant at Petaluma has been promised by the citizens.

—Work of boring for oil has been commenced with the plant lately erected by Charles Sonntag and others of this city on the Josiah Allen ranch near Lafayette, in Contra Costa County.

—Two Fresno men are going to put up a $10,000 mill there for seeding raisins. It will seed 40,000 pounds of raisins a day. The seeded fruit sells for three times the price of the ordinary raisins.

—The American River Land & Lumber Co. at Placerville, Cal., has leased its timber lands and lumbering plant to George Marsh, who has a contract for 5,000,000 feet of lumber per annum for five years.

—A cigar-shaped raft similar to that illustrated and described one year ago in these columns has been constructed by Capt. Robertson at Stella, Wash., and will be towed to this city next week. It contains nearly six million feet of lumber.

—Arrangements have been made by the San Francisco and San Joaquin Valley Railroad directors for the issuance of $6,000,000 in bonds, to be secured by a blanket mortgage on their line from Stockton to Bakersfield and all their rolling stock and terminal rights.

—The Brown's Valley, Yuba Co., Cal., irrigation system has been leased by F. W. Page. Pushed to the limit of its possibilities this means cheap power for the mines of that vicinity and sufficient electric generation to supply Marysville with light and power.

—The California Beet Sugar Estate and Land Company, Limited, organized in this city last week. Directors—J. F. Gilmore of London, W. Easton, G. Easton, V. Neale, H. Francis, V. D. Duboce, A. H. Quatman; capital stock, $2,500,000, of which $2,485,000 has been subscribed by Director Gilmore.

—The steamer Moana being built on the Clyde for the Union Steamship Company of New Zealand, to take the place of the Monowai next March, will be 360 feet in length and 44-foot beam with a capacity of 4700 tons or 1000 tons more than that of the Monowai and will have a maximum speed of 16½ knots.

—The Board of Prison Directors will be compelled to close the jute mills at San Quentin for two months, unless the State Board of Examiners will allow them to overdraw their accounts for August and September. There is a deficit of $13,240, caused by the failure to sell grain bags, of which 2,500,000 are now on hand.

—An English company has leased the Tehauntepec Isthmus Railway from the Mexican Government, agreeing to complete the work, improve the harbors at the Atlantic and Pacific termini of the road and put on a line of freight vessels between Salina Cruz—the Pacific coast terminus of the road—and this city. This is a matter of considerable importance to San Francisco, especially if the English company makes good its agreement to create suitable harbors at each end and remain an independent competitive line.

—Dealers say that never before in the history of Oregon has the wool situation been anything like what it is at the present time. Heretofore there has always been a market for wool at some price. There has always been money in the past, plenty of it, to advance to any and all who wanted to consign their wool. People have held back for better prices in days gone by, but when the time came that they had to sell there were always buyers ready to pay the market price. Now there is no market, no price, no buyers—none who will make advances. The wool business is at a dead standstill. Mountains of wool, one of the mainstays of eastern Oregon, is tied up, and, for the present needs, is as worthless as the sands of the Columbia; 20,000,000 pounds of wool in eastern Oregon towns alone, and no one to even advance enough money on it to pay freight from one town to another. This wool is stored in warehouses at Huntington, Elgin, Baker City, Union, Durkee, Pendleton, Heppner, Echo, Arlington and The Dalles.

—The secretary of the Smithsonian Institute, Washington, sends word of a letter from the U. S. Logation at Pekin to the State Department, stating that the Pekin University has recently opened in one of its buildings a museum, which it is proposed to devote largely to the exhibition of foreign machinery and mechanical appliances, visited by people of the better classes, interested in acquiring some knowledge of foreign manufactures and inventions, and it is believed that it can be made an important means of advertising and introducing the products of American industry. The authorities of this museum would be glad to receive and exhibit working models, photographs, or drawings of machinery and invention, or specimens thereof, such as plows, ships, firearms, cannon, electricity machinery, cars, locomotives, windmills, looms, printing presses, wagons, engines, etc. Each exhibit which may be presented to them will be marked in Chinese with the name and address of the maker, together with description and price thereof if desired, and capable translators will explain their use to inquirers. The letter to the State Department says that this is a good opportunity for manufacturers in this country who wish to reach the Chinese market. Correspondence on the subject and articles for exhibition may be sent to the Pekin University, Pekin, China, or to C. H. Taft, 78 William street, New York. Under an arrangement with the I. M. Customs, all such articles will be admitted to China duty free.

Silver and Gold Holdings.

The following is an estimate of gold and silver holdings of leading banks of the world:

	Gold.	Silver.
German Reichs Bank	$145,500,000	$70,000,000
Other German banks	19,400,000	1,000,000
German Imperial war fund	30,000,000	.....
Bank of England	284,400,000	8,000,000
Other English banks	40,000,000	.....
Scotch banks	21,800,000	4,000,000
Irish banks	14,000,000	2,000,000
Austro-Hungarian Bank	114,000,000	54,000,000
Austro-Hungarian treasury	81,400,000	.....
Bank of Italy	60,600,000	11,000,000
Bank of Naples	21,200,000	2,000,000
Bank of Sicily	7,000,000	400,000
Treasury of Italy	17,400,000	2,200,000
National Bank of Belgium	16,600,000	2,600,000
National Bank of Greece	400,000	.....
National Bank of Roumania	11,800,000	1,000,000
Bank of Spain	42,000,000	56,800,000
Bank of Holland	15,200,000	35,000,000
Bank of Algiers	3,200,000	3,200,000
Bank of Portugal	5,400,000	9,400,000
Bank of Sweden	6,800,000	800,000
Bank of Norway	6,600,000	.....
Bank of Denmark	18,600,000	.....
Bank of Servia	1,200,000	1,000,000
Bank of Bulgaria	200,000	400,000
Bank of Finland	4,400,000	600,000
Swedish banks	2,200,000	800,000
Swiss banks	17,200,000	1,600,000
Bank of Russia	454,400,000	5,200,000
Imperial Treasury of Russia	68,200,000	.....
National banks of New York	62,000,000	.....
National banks of United States outside of New York	85,200,000	13,600,000
Treasury of the United States	100,000,000	532,400,000
Australian banks	100,000,000	.....
Totals	$2,234,600,000	$1,074,400,000

The Treasury Department announces that from official information from twenty-one countries it is learned that the coinage of silver during the calendar year 1895 amounted to $113,672,000. Of this sum $13,603,200 was recoinage. Deducting this from the total coinage gives the coinage of silver from new bullion as $100,069,000. The country coining the largest amount was Mexico, with $24,832,350, followed by Japan, with $23,883,500; China, $8,233,340; Spain, $7,969,000; Great Britain, $5,821,151; United States, $5,698,000; Austro-Hungary, $5,299,000; Peru, $4,073,000; Russia, $3,554,000; Ecuador, $2,500,000; Germany, $1,826,000. The silver coinage by Great Britain during the year for her colonies was $3,808,130. France coined for Indo-China $6,092,000 and for Morocco $354,600. From January 1st to August 1st, 1895, the coinage of silver dollars by the mints of the United States was $8,562,412. The world's product of silver during the calendar year 1895 is estimated to have been $226,000,000.

Deafness Cannot be Cured

by local applications, as they cannot reach the diseased portion of the ear. There is only one way to cure deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian Tube. When this tube is inflamed you have a rumbling sound or imperfect hearing, and when it is entirely closed Deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever. Nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

We will give One Hundred Dollars for any case of Deafness (caused by catarrh) that cannot be cured by Hall's Catarrh Cure. Send for circular; free. F. J. CHEYNEY & CO., Toledo, O.

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Owing to the remarkably large runs of salmon in the Fraser river, it is claimed that this year's output of the canneries will be the largest in their history.

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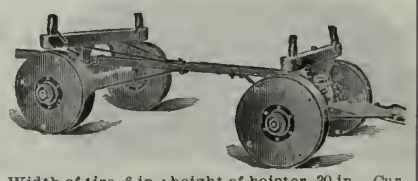

Width of tire, 6 in.; height of hoister, 30 in. Carries any size platform or bed. Wheels turn under the load. Nothing equal to it for Farm, Orchard and Vineyard. Four sizes, one horse to six horses. Fully guaranteed. Write for Catalogue. Agents wanted. W. C. RARIG, General Agent, 157 New Montgomery Street, San Francisco, Cal.

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IT IS NOT LIKE OTHERS—IT IS BETTER.

We also make a full line of grinding mills wood saws, shellers, fodder and ensilage cutters, &c. Catalogue sent FREE.

Our famous Success 1 horse TREAD POWER is a Marvel. Adapted to all uses requiring a moderate power.

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Assaying of Ores, $25; Bullion and Chlorination Assay, $25; Blowpipe Assay, $10. Full course of assaying, $50. Established 1864. Send for Circular.

Curious Facts.

Soil brought up from a depth of 326 feet in one of the Belgian mines is said to have grown weeds unknown to the botanists.

If all the telegraph lines of the world were combined and stretched in one straight line they would reach 881,000 miles, or enough to encircle the earth nearly thirty-seven times.

A small piece of candle may be made to burn all night by putting finely powdered salt on it until it reaches the black part of the wick. A small, even light may be kept in this way.

National flowers have been adopted in various countries as follows: Greece, violet; Canada, sugar maple; Egypt, lotus; England, rose; France, fleur-de-lis; Germany, corn flower; Ireland, shamrock; Italy, lily; Prussia, linden; Saxony, mignonette; Scotland, thistle; Spain, pomegranate; Wales, leek.

It is possible to go round the world and touch on British territory all the way, viz., from England to Halifax, N. S., across Canada to Vancouver, across the Pacific to Hong Kong, thence to Singapore, Penang, Mauritius, Cape Town, St. Helena and England; or from Penang to Ceylon, Bombay, Aden, Perim, Malta, Gibraltar and home. There is a "sea connection" that no other nation in the world possesses.

"A striking illustration of the influence of fatigue upon the nervous system," says Modern Medicine, "is afforded by an experiment conducted by an Italian physician some months ago. Twenty-four bicycle riders who had ridden thirty-two miles in two hours and a quarter were examined with reference to their hearing, and it was in nearly every instance found to be defective. After two hours rest the hearing had become normal in most of them."

"A female patient presented herself at the Hotel Dieu of Lyons, for a rebellious hiccough which had resisted all treatment for four days," says the Medical Times. "She was asked to show the tongue, and it was noticed that with the putting out of the tongue the hiccough ceased. The same thing has been since tried and with success in other cases. All that is necessary, apparently, is to strongly push the tongue out of the mouth and hold it so for a minute or two. It is also suggested now to try the same thing in suffocative cough, as whooping cough and choking by irrespirable gases."

The Benefits of Early Rising.

It was once laid down by a celebrated writer and historian that the difference between rising at 5 and 7 in the morning for the space of forty years, supposing a man to go to bed at the same hour every night, is nearly equivalent to the addition of ten years to the life. This consideration should carry very great weight, and be sufficient to induce those who have not hitherto practiced this habit to commence to do so, more especially the people who are always complaining that life is not long enough for them to transact all the work that they have to perform. There is much foundation for their complaint if they persist in wasting so many valuable hours of the day in bed. The advantages and benefits of early rising cannot be overestimated; in the early hours of the morning the brain is clearer and more ready for work, and after a night's sleep we should be ready to attack the work of the day.

California Fruit Sales.

NEW YORK, August 19.—The Earl Fruit Company sold to-day: Pears—Bartlett, $1.10@1.60; Congress, half boxes, 70c; Beurre Hardy, half boxes, 50@60c; Beurre Clairgeau, half boxes, 55@60c. Plums—Kelsey, 95c@$2 85; Egg, 55@95c; Victoria, $1.10; Bohemia, $1.15; Ickwith Imperatrice, 60@70c. Prunes—Italian, $1.25; Gros, 80c@$1.35; Hungarian, 95c@$1.

CHICAGO, August 19.—The Earl Fruit Company sold to-day: Pears—Bartlett, 85c@$1.05; Beurre Hardy, 85c@$1.05; Prunes—Italian, $1.40; Gros, 80c @$1.25. Plums—Egg, 80c.

NEW YORK, August 20.—The Earl Fruit Company sold to-day: Pears—Bartlett, $1.25@1.70; Beurre Clairgeau, $1.30@1.55; half boxes, 40@50c; Beurre Hardy, half boxes, 45@50c; Souvenir de Congress, half boxes, 65c; Clapp's Favorite, half boxes, 65c. Plums—Kelsey Japan, $1@2.50, some in bad order sold for less; Egg, 70c@$1. Prunes—Hungarian, 75c@$1.20; German, $1.05; Gros, 75c@$1.25; in boxes, 65@70c. Grapes—Malaga, $1.15@1.40.

CHICAGO, August 20.—The Earl Fruit Company sold to-day: Pears—Bartlett, 95c@$1.10; Beurre Hardy, 85c@$1. Plums—Victoria, 85c; Egg, 65@ 95c; Quackenbos, $1.55. Prunes—Italian, $1.20; Gros, 70c@$1.10; Robe de Sargent, 75c@$1.05; some in bad order sold for less. Peaches—Cling, 70@75c; Crawford, 55@80c; White, free, 50@60c.

NEW YORK, Aug. 21.—The Earl Fruit Company sold to-day: Pears—Bartlett, $1.10@1 45; half boxes, 70c@$1 15. Plums—Kelsey, $1.20@2.15; Quackenbos, $1.05@1.15; Egg, 70@90c. Prunes—Gros, 80c@$1.05; Hungarian, 85@90c; German, 90c @$1.10. Peaches—Susquehanna, 75c; Salway, bad order, 40@85c. Grapes—Tokay, $2.20.

CHICAGO, August 21.—The Earl Fruit Company sold to-day: Pears—Bartlett, $1.05@1.20. Plums—Purple Duane, $1.45. Prunes—Italian, $1.25; Gros, 75c@$1.05; Robe de Sargent, 90c@$1. Nectarines, $1.15.

NEW YORK, Aug. 24.—The Earl Fruit Company sold to-day: Pears—Bartlett, 85c@$1.40; Beurre Hardy, 85@90c; Duchess, 65c@$1.05; Beurre Clairgeau, 65c@$1. Grapes—Tokay, $1.50@1.60; Muscat, $1.10. Plums—Kelsey, $1@1.70; Fellenberg, $1.10. Prunes—Italian, $1.05@1.25; Tragedy, $1.45; Gros, 65c@$1.15. Peaches—Orange Cling, 80c@ $1.15; Susquehanna, 60@75c; Crawford, 65c.

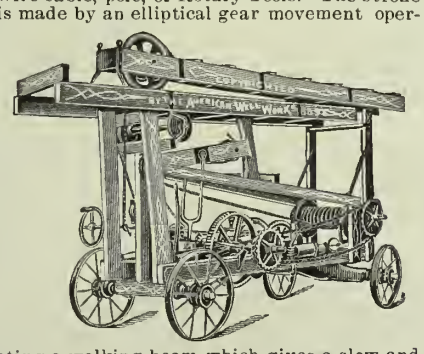
CHICAGO, Aug. 24.—The Earl Fruit Company sold to-day: Pears—Bartlett, $1.05@1.70. Prunes—Italian, $1.15@1.50; Gros, 90c@$1.10; Hungarian, 85c@$1. Plums—Egg, 50c@$1.15; Kelsey, 80@90c. Grapes—Tokay, $2.10@2.25; Muscat, 50c@1.50; Malaga, 95c@$1.45; Fontainebleau, $1.10. Peaches—Susquehanna, 85c; Crawford, 80@90c.

CHICAGO, Aug. 25.—The Earl Fruit Company sold to-day: Pears—Bartlett, $1.35@1.80. Grapes—Tokay, $1.70@1.80; Muscat, $1.10@1.35; Fontainebleau, 80@85c. Prunes—Hungarian, 80c@$1.10; Gros, 95c@$1.15; Silver, 95c. Peaches—Crawford, 30@80c; Orange Cling, 70@80c.

NEW YORK, Aug. 25.—The Earl Fruit Company sold to-day: Pears—Bartlett, $1.20@1.40. Prunes—Italian, $1.15@1.30; Bulgarian, 95c@$1; German, $1.15; Fellenberg, $1@1.15; Hungarian, $1.15@1.25. Plums—Kelsey, $1.35@1.55; Egg, 75@95c. Grapes—Malaga, some in bad order, 80c@$1.30.

An Up-to-Date Improved Well-Sinking Machine.

We illustrate herewith one of the Improved Mounted Elliptical Well Drilling Machines, manufactured by the American Well Works, Aurora, Illinois (branches: Chicago, Illinois, Dallas, Texas). The machine will handle with equal rapidity hollow rod tools, rope or wire cable, pole, or Rotary Tools. The stroke is made by an elliptical gear movement operating a walking beam which gives a slow and powerful lift with a quick drop. The rope drum is located at the rear of the machine, from this the rope passes to the front of the machine over a sheave at the pivot of the walking beam, thus enabling the rope to coil uniformly on the drum. By combining their Double-Acting Gasoline Engine with this machine a first-class outfit is secured. Address American Well Works, Aurora, Illinois, for prices or for further particulars.



A number of "bulls," by members of Parliament and others, have been printed lately; but bishops seem to perpetrate them sometimes. His lordship of Ripon, in a sermon the other day at Calverley, near Leeds, betrayed his Hibernian origin, not for the first time, in the same way. He said, "My brethren, I beg you to take hold of your heart and look it straight in the face."—Westminster Gazette.

A cheap and sure remedy for hard or soft corns is said to be turpentine. One who has tried it says if a little of this is rubbed on a corn every evening for about two weeks the corn and roots will both come entirely out and will not re-appear in any form.

"I want a new hat in the very latest style." "Please sit down for a few minutes. The fashion is just about to change."—Texas Sifter.

A Claim Proved.

The Bickmore Gall Cure Co. has just issued an attractive facsimile of letters from one of the large mining companies of West Virginia telling how their Gall Cure cured two mules suffering from sore shoulders—which until then they were unable to heal—while the animals were working in the mines. This endorsement seems to prove the truth of one of this company's claims for their preparation that at first seems incredible—that it will cure a collar or saddle gall under the harness while the horse is worked.

WANTED.
HORTICULTURIST.

Practical horticulturist of California experience can have steady employment on one of the largest fruit farms in San Diego county, consisting of oranges, lemons, olives and apricots. Only wide-awake, up-to-date parties need apply. If no children, wife can have position as cook for ranch hands. Address, with references, F. F. ADAMS, Fallbrook, California.

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WE OFFER THE FOLLOWING SIZES BELOW COST:

FARM GEARS.

	Cat. No.	Size Axle.	Style Axle.	Width Tire.	Capacity.
7	47	2⅛	Hollow Steel..	2 in.	2500 lbs.
5	47	2⅛	"	3 in.	2500 lbs.
4	48	2⅜	"	2½ in.	4000 lbs.
3	50	2⅞	"	4 in.	6500 lbs.
6	38	1¾	Concord Steel.	3 in.	4000 lbs.
1	40	2	"	2½ in.	6000 lbs.
1	40	2	"	3 in.	6000 lbs.
2	40	2	"	4 in.	6000 lbs.
8	18	3¼	Steel Skein...	2 in.	4000 lbs.
2	18	3¼	"	2½ in.	4000 lbs.
8	19	3½	"	2¼ in.	5000 lbs.
4	19	3½	"	3 in.	5000 lbs.

All these wagons are fresh stock, fully guaranteed, and prices can't be duplicated.

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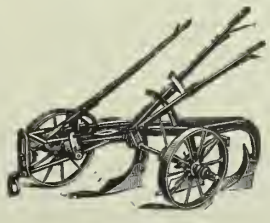

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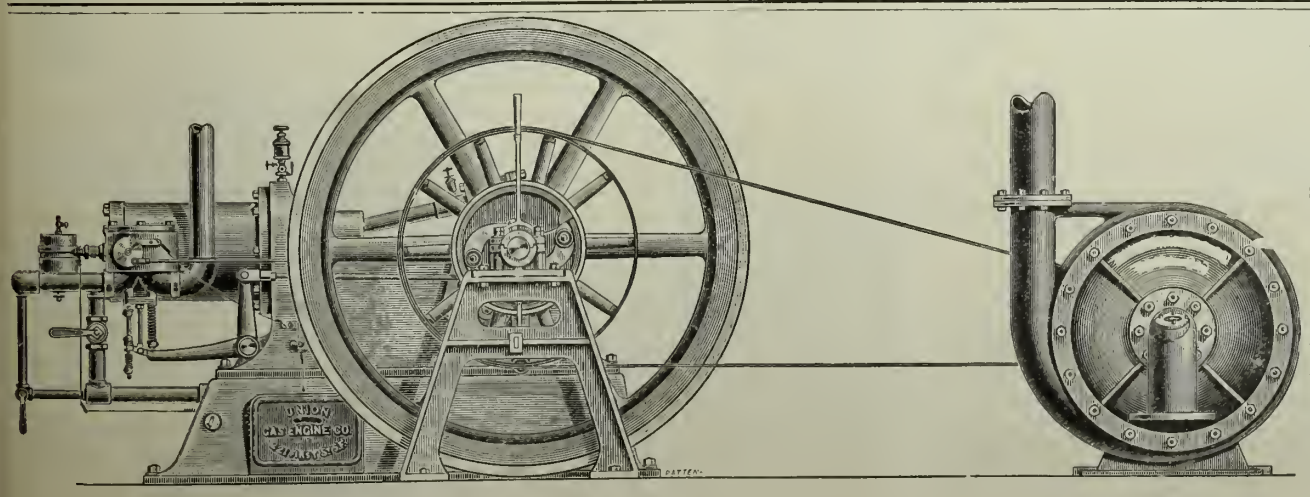

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ENGINES
For Pumps, Hoists, Launches, Etc.
SEND FOR CATALOGUES.

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Aug. 26, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	131,439	1,048,428	514,955
Wheat, ctls	259,690	1,121,207	1,265,208
Barley, ctls	158,340	997,815	617,421
Oats, ctls	5,115	60,717	65,589
Corn, ctls	2,930	28,269	9,848
Rye, ctls	1,930	6,060	4,740
Beans, sks	4,111	35,747	18,736
Potatoes, sks	26,934	146,359	148,352
Onions, sks	3,875	25,299	20,452
Hay, tons	4,998	30,195	32,362
Wool, bales	599	8,141	10,862
Hops, bales	43	222	366

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	94,136	846,240	304,100
Wheat, ctls	129,762	858,289	1,670,477
Barley, ctls	185,125	603,643	409,152
Oats, ctls	....	5,333	3,446
Corn, ctls	....	2,654	3,189
Beans, sks	486	30,954	36,332
Hay, bales	1,042	4,735	4,681
Wool, lbs	....	2,646,711	1,138,000
Hops, lbs	65,628	144,366	149,364
Honey, cases	2	189	1,476
Potatoes, pkgs	127	7,164	17,874

Grain Freights and Charters.

More activity has been shown in the market for wheat ships, with a tendency to firmer rates. Spot charters were effected the past week at figures which were above the views of shippers at date of last review. Any radical advance in ocean freight rates, however, is not considered probable, as there is no scarcity of ships, and at current rates there is a little margin of profit to owners.

Charters.

Ship Santa Clara, 1474 tons, wheat and flour to Sydney.

British ship Cambuskenneth, 1785 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 6s 3d net.

British ship Port Douglas, 1592 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 6s 3d net.

British ship Formosa, 1474 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 6s 3d net.

British bark Kilmallie, 1519 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 6s 3d net.

British ship Achnashie, 2334 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 6s 3d; 1s 3d less, direct.

British bark Ravenscourt, 1373 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d; 1s 3d less, direct.

British ship Wynnstay, 1573 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 6s 3d net.

Italian bark Oriente, 1435 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 6s 9d net.

British ship General Roberts, 1914 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d; direct port, £1, 6s 3d.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive.
1896	66,612	41,577	254,838
1895	36,386	6,083	361,153

Flour.

There has been a trifle better tone to the market the past week, due to the improved feeling in wheat. Prices for flour, however, are slower to respond to any hardening in wheat values than they are to a depression. The heavy competition between jobbers and the large quantities of outside brands always being urged to sale make it uphill work to establish advanced rates for this commodity, even when the price of the raw material justifies the same.

Superfine, lower grades	$2 25@ —
Superfine, good to choice	2 40@2 50
Country grades, extras	2 85@3 15
Choice and extra choice	3 15@3 35
Fancy brands, jobbing	3 35@3 60
Oregon, Bakers' extra	2 75@3 00
Walla Walla, Bakers' extra	2 75@3 00

Wheat.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	5s 2½d@5s 3½d.	5s 5d@5s 5½d.
Freight rates,	30½@—s.	26¼@27½s.
Local market,	$0.92½@95	$0.96¼@98¾.

The prices above are for spot lots of standard No. 1 California in Liverpool, and for good to choice shipping in this city.

A Buenos Ayres paper of recent date has the following regarding wheat shipments from the Argentine Republic:

Owing to Australia's bad harvest, the exports from Argentina to South Africa have increased, and up to the end of April amounted to 33,500 sacks of wheat, 13,422 sacks of flour and 43,979 sacks of corn, and it is expected that, even should Australia be again able to export wheat thereto, the shipments from Argentina will still further augment. Last year's harvest of Cape Colony was only partially good. The Western provinces yielded rather above the average, but was deficient in other districts. The deficit is reckoned at 400,000 sacks of 200 pounds, which had to be covered by imports from America and other countries. The total consumption of the colony, inclusive of seed requirements, is estimated at 1,200,000 sacks.

A decidedly improved tone was developed in the local wheat market immediately following last review, the change for the better being based mainly on firmer markets in Europe. Wet and unfavorable weather for harvesting in Russia as well as in other portions of continental Europe, as also in Great Britain, had doubtless much to do with the improvement in demand and values in European centers. The decreased yield in the United States, as compared with some of the earlier estimates, would naturally aid to some extent in the same direction, although values have on more than one occasion moved downward when, under existing conditions, an advance seemed almost inevitable. The crop in this State is turning out fairly well as to quality, but much of the wheat in Oregon and Washington, according to samples thus far received, shows shrunken condition, with light percentage of gluten, owing to damaging weather while the kernel was in the dough. The Call Board market was on the up grade at the close of last and the early part of the present calendar week. Dec. option touched $1 per cental Monday, and No. 1 new, spot, season's storage paid, sold same day on Call Board at 98¼c. Tuesday and Wednesday the market was a little easier, although the wheat situation as a whole was in much better shape for sellers than a week ago.

California Milling, old	$ 97½@1 02½
Cal. No. 1 shipping, alongside	96¼@ 97½
Oregon Valley	95 @1 00
Walla Walla Blue Stem	90 @1 00
Walla Walla Club	85 @ 95

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the options named:

December, 1896, delivery, 96⅝@$1.

May, 1897, delivery, $——@——.

Wednesday, at regular noon session of Call Board, December wheat sold at 99@99⅜c; May, $——.

Barley.

From no very well-defined reason other than that wheat was ruling firmer, the barley market has been tending less in buyers' favor than for some weeks preceding. The firmer feeling which existed, however, was confined almost wholly to choice quality, the only description in special request on local account, and the only kind suitable for shipment. On the ordinary variety of barley the range in values from choice to select has been rather narrow, but the gap is apt to widen, to the benefit of the better grades, as the season advances. Choice Chevalier has been difficult to find in wholesale quantities this season, but shippers so far have not named prices which would be regarded as particularly tempting to growers.

Feed, No. 1 to choice	63¾@65
Feed, fair to good	60 @62½
Brewing, No. 1 to choice new	72½@80

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, 67@68⅞c; May, 1897, delivery, ——@——c.

Wednesday at regular noon session of the Call Board, Dec. feed sold at 68c.

Oats.

Only moderate quantities of oats are arriving, principally new crop California. For ordinary qualities of both new and old, but more particularly new, the market is not noteworthy for firmness. Choice to select oats of 1895 crop, either White, Gray or Surprise, are in limited supply, and holders of such stock are generally firm in their views. New crop oats from Oregon and Washington have not yet put in an appearance in wholesale quantity.

White Oats, fancy feed	92½@— —
White, good to choice	85 @ 90
White, poor to fair	77½@ 82½
Gray, common to choice	80 @ 87½
Milling	85 @ 87½
Surprise, good to choice	95 @1 02½
New crop Cal. Oats	72½@ 82½

Corn.

No marked changes have occurred in the general condition of this market. There have been light exports this week, and it is to be hoped that shipments will soon assume something like the proportions of former seasons, when the export trade was the mainstay of the market. Large and Small Yellow are still receiving the bulk of attention, and are commanding higher prices than White. Mixed Yellow from Nebraska arrived in small quantity this week.

Large White, good to choice	77½@ 80
Large Yellow	87½@ 90
Small Yellow	92½@ 95

Rye.

Offerings and demand are both of light volume. Prices continue at a low range.

Good to choice, old	70 @ 72½
Good to choice, new	67½@ 70

Buckwheat.

Scarcely enough doing in this cereal to enable the giving of quotations. This market is almost invariably dull at this time of year.

Good to choice	90 @ 92½

Beans.

An Eastern authority gives the following review of the New York bean market. Prices quoted are per bushel of 60 lbs.:

There has not been the slightest improvement in the home jobbing trade nor can much be expected until next month. Exporters have been fair buyers of Red Kidney and have taken a few lots of Marrow, but there has been an abundance of stock of most varieties and holders have met the demand promptly. Towards the close advices have been coming in from the country of less favorable outlook for the growing crop and there has been a disposition to take a little more hopeful view o the situation. Average choice Marrow have been offered most of the week at $1.12½, but to-day $1.15 is generally asked, and one or two export orders for large-size barrels have been filled at that. Medium have had slow sale at 97½c@$1, latter extreme. Pea held at $1 generally and are not plenty enough to cause any pressure to sell. White Kidney dragging. Probably 700 hhls. of Red Kidney have been taken for export during the week, mostly on the basis of $1.05 f. o. b.; it is still easy to buy at that. The scarcity of Turtle Soup has kept the price firm. Yellow Eye has eased off about 2½c. and are dragging. California Lima dull and unsettled.

Business in all descriptions of beans is of a light order, and at much the same low range of values as previously noted. Prices for Limas continue on the down grade, with prospects gloomy for any special reaction in the near future. Full current quotations are only possible in the filling of small jobbing orders. Wholesale buyers are difficult to find at any figure, having little confidence in the outlook.

Pea, fair to good, 100 lbs	$1 20 @1 35
Small White, good to choice	90 @1 05
Lady Washington	75 @1 00
Butter, small	1 10 @1 25
Pinks	65 @ 80
Bayos, good to choice	1 00 @1 15
Reds	1 20 @1 30
Red Kidneys	1 50 @1 75
Limas, good to choice	1 90 @2 00
Black-eye Beans	1 25 @1 50

Dried Peas.

Nothing worthy the name of business transpiring. Quotations are unchanged, but are wholly nominal.

Green Peas, California	$1 15 @1 30
Niles Peas	1 20 @——

Wool.

This market remains featureless, being dull and uninteresting. It is much like a perpetual holiday now in the district known as wool town. Neither buyers nor sellers anticipate any special revival of trade until after the Presidential election, and that the wool business will then be active is by no means assured. In the absence of sales, quotations are based on asking figures.

SPRING.

Humboldt and Mendocino	10 @12
Northern California free	— @—
Northern defective	5½@ 7
San Joaquin Foothill, good to choice	6 @ 7½
San Joaquin, 12 months	4 @ 6½
San Joaquin and Southern, 6 months	4 @ 6
Nevada, as to condition	7 @ 9
Oregon Valley, select	9 @10½
Oregon Valley, low grade	8 @ 9½

Hops.

The New York *Producers' Price Current* has the following concerning the hop market:

Pretty full crop reports have been coming to hand this week, not only from hop sections of this country, but from Europe as well. Estimates of the English crop are now placed at £200,000 to £225,000 old duty. Throughout Germany the yards are looking well and it is thought that there will be fully as many as last year. From the Pacific coast the reports are still contradictory, but the best authorities place the yield at about 100,000 bales. Fine quality is promised in some localities. The New York State crop varies a good deal and is very uneven in ripeness: some yards are forward and show well-matured stock, others are very backward. It is safe to say that the plowing up in this State amounted to about 15 per cent, and the probable shortage in the yards now under cultivation will be 25 to 30 per cent. Lice and honeydew threaten to do some damage. The recent extremely hot weather has not been favorable to the crop. The effect of these reports has not been apparent except possibly to lessen the disposition of dealers to contract the new hops for future delivery. There is so little business doing from day to day that values are almost nominal. Buyers have practically no wants to supply at present, and holders are not anxious to push sales at the expense of concessions in price.

Small shipments of 1895 hops have lately gone out by sea to Australia and to England. Those destined for Australia went by steamer, while those bound for England were carried by sailing vessel. Dealers are still indifferent to offerings of old on the spot, or of new to arrive. Business in new for forward delivery has been within range of 6@8c so far as reported, with few contracts at latter figure.

Fair to choice, 1895 crop	2 @4

W. C. PRICE & CO.,

General Produce Commission Merchants,

WANT

Your shipments of Hay, Grain, Potatoes, Butter, Cheese, Eggs, Live Poultry, Dressed Turkeys, Flour, Wool, Beans, Comb and Extracted Honey, Broom Corn, Hides, Dried Fruits, Nuts, Vegetables, and California, Oregon and Washington Produce of all kinds.

425 FRONT STREET, San Francisco, Cal.

Liberal advances made on consignments. Correspondence solicited. Established 1876. Members Merchants' Exchange and Dried Fruit Exchange.

Hay and Straw.

Heavy quantities of hay were again landed on the market this week, causing as unsatisfactory a condition as at any date this season. The hay crop is large and producers seem to be more than ordinarily in a hurry to get the product to market, while consumers, on the other hand, are slow in stocking up. Straw is offering in liberal quantity, and is naturally weak, with hay so low as at present.

NEW HAY.

Wheat	6 50@ 9 50
Wheat and Oat	6 50@ 8 00
Oat	5 00@ 7 00
Barley	6 00@ 7 50
Clover	5 00@ 6 50
Stock Hay	4 00@ 5 00
Alfalfa, first cutting	4 00@ 5 00
Straw, ₱ bale	25@ 35

Millstuffs.

The improved rates last noted on bran and middlings have continued to be maintained. Market for rolled barley was slightly firmer, but not quotably higher.

Bran, ₱ ton	11 00@12 50
Middlings	14 00@16 00
Barley, Rolled	14 00@14 50
Cornmeal	19 00@20 00
Cracked Corn	20 50@— —

Hides, Pelts and Tallow.

Market for hides and tallow is slow at the decline last noted. Pelt market is without improvement, either in quotable values or the demand.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	6 @ —	5 @ 5½
Medium Steers, 48 to 56 lbs	— @ 5	4 @ 4½
Light Steers, under 48 lbs	4 @ —	3 @ 3½
Heavy Cow Hides, over 50 lbs.	4 @ 4½	— @ 4
Light Cow Hides, under 50 lbs.	4 @ —	3 @ 3½
Wet Salted Kip	— @ 4	— @ 3
Wet Salted Veal	— @ 5	— @ 4
Wet Salted Calf	— @ 6	— @ 5
Dry Hides, round lots, 7½@9c.	9 @ 9½	— @ 7
Dry Kip and Veal, 11 to 16 lbs.	7 @ 8	— @ 6
Dry Calf, under 4 lbs	12 @14	8 @ 9

Seeds.

New crop mustard seed is expected on market at an early date, and indications are that desirable qualities will meet with rather prompt sale at tolerably firm figures. The prospects are especially good for choice Trieste or cultivated brown being accorded a very fair market. Regarding other seeds there is nothing of interest to record.

	Per ctl.
Mustard, Yellow	1 60@1 75
Mustard, Trieste Seed	2 75@3 00
Mustard, Wild Brown	1 75@2 00
Flax	1 50@1 60
	Per lb.
Canary	2¼@2¾
Rape	2 @2¼
Hemp	3¼@3½
Alfalfa, Utah	—@ —

Bags and Bagging.

As we are between seasons in the grain-bag trade, there is naturally little transpiring. San Quentins are quoted at $4.20 per 100. The wholesale price on Calcuttas is $4.25, but large buyers fail to put in an appearance at this figure. On small lots an advance of one-eighth to one-quarter cent over wholesale prices is asked.

Grain bags, 22x36, spot	4¼@ 4½
Wool sacks, 4 lb	28 @—
Wool sacks, 3½ lb	26 @—
Gunnies	12 @—
Bean bags	4 @ 4¼
Fruit sacks, cotton	5½@ 7½

Honey.

Little doing in this article, and transfers effected are wholly on local account. In sea-

Up to Date.

GROOM & HAGAN,

✦ Stylish
✦ Hatters,

942 Market St. Under Baldwin Hotel.

sons of light yield like the present one the quality is ordinarily of rather low grade, but some honey as fine as was ever seen upon this market has been recently landed here in the shape of comb in 1-lb. frames.

White Comb, 1-lb frames	11 @12½
Amber Comb	7½@10
Extracted, White Liquid	5 @ 5½
Extracted, Light Amber	4½@ 4¾
Amber Colored and Candied	3¾@ 4
Dark Tule	2¾@ 3

Beeswax.

There is a fair inquiry for such as can be guaranteed strictly pure. Where there is any suspicion of adulteration, buyers give offerings the go-by.

Fair to choice, ℔ lb	22@25

Live Stock and Meats.

The hog market is still showing weakness, and that it will soon materially improve is not likely. Beef and mutton have heen ruling fairly steady. Following are wholesale rates:

Beef, 1st quality, dressed, net ℔ lh	4½@ 5
Beef, 2d quality	4 @ 4½
Beef, 3d quality	3½@—
Mutton—ewes, 4@4½c; wethers	4½@ 5
Hogs, hard grain fed, light fat	3⅛@ 3¼
Hogs, large hard	2⅞@ 3
Hogs, soft and feeders	— @—
Hogs, country dressed	4¼@ 4½
Veal, small, ℔ lh	5 @ 6
Lamh, spring, ℔ lh	5 @ 5½

Poultry.

There was little chance for quotable improvement in values of poultry of any description, as two cars of Eastern came forward since our last report, in addition to fairly liberal arrivals of domestic product for this season of the year. Small to medium size broilers were in lightest receipt and sold to hest advantage. Full-grown poultry, especially common qualities of old, met as a rule with slow custom at low figures. For extra large and fat fowls an advance on outside quotations was realized.

Turkeys, live hens, ℔ lh	13@ 14
Turkeys, live gohhlers	14@ 15
Turkeys, large young	16@ 18
Hens, Cal., ℔ doz	4 00@4 50
Roosters, old	4 00@4 50
Roosters, young, (full-grown)	4 00@5 00
Fryers	3 00@3 50
Broilers, large	2 75@3 00
Broilers, small	2 00@2 50
Ducks, young, ℔ doz	3 50@5 00
Ducks, old	3 00@4 00
Geese, ℔ pair	1 25@ —
Goslings, ℔ pair	1 25@1 50
Pigeons, Old, ℔ doz	1 50@ —
Pigeons, Young	1 50@2 00

Butter.

Stocks of fresh butter in the wholesale deports have not been quite so heavy the past week as last noted, but of ordinary qualities, both creamery and dairy, there was more than enough to accommodate the demand. Faultless butter, either squares or rolls, was in limited supply, and in some instances brought a higher figure than was justified as a regular quotation. Packed butter is ruling quiet at unchanged figures.

Creamery extras, ℔ lh	18 @19
Creamery firsts	17 @18
Creamery seconds	15 @16
Dairy select	16 @17
Dairy seconds	14 @15
Dairy, soft and weedy	10 @11
Mixed store	10 @12
Creamery in tuhs	15 @16
Pickled roll	15 @16
Dairy in tuhs	14 @15
Firkin, Cal., choice to select	14 @15
Firkin, common to fair	11 @12½

Cheese.

Although supplies in the hands of the wholesale trade are of quite moderate proportions, there is more offering than can be accommodated with custom at full current rates. Present prices are regarded too high to warrant jobbers or retailers in stocking up heavily ahead.

California fancy flat, new	9 @—
California, good to choice	7 @ 8
California, fair to good	6 @ 7
California, "Young Americas"	8 @ 9½

Eggs.

While the market has shown much the same general condition as during previous week, tbe tendency on strictly choice to select was to a little more firmness, with not many of this sort coming forward. There are liberal supplies of cold-storage stock, domestic and Eastern, and no scarcity of common qualities of fresh. For defective qualities from all sections the market is devoid of firmness.

California, select, large white and fresh	23 @—
California, select, irregular color & size	17 @21
California, good to choice store	13 @16
California, common to fair store	10 @12
Oregon, prime	14 @15
Eastern, as to section and grading	14 @17
Eastern, seconds	10 @12
Duck eggs	16 @17

Vegetables.

The last Australian steamer took ahout 1800 crates of onions, relieving this market materially but not sufficiently so to cause any improvement in quotable values. Nearly all vegetahles in season are offering quite freely and, in the main, at low prices.

Asparagus, Fancy, ℔ hox	— —@— —
Asparagus, common to good, ℔ box	— —@— —
Beans, String, ℔ sack	50@ 1 00
Beans, Wax, ℔ lb	1½@ 3
Beans, Garden, ℔ lb	2@ 3
Beans, Lima, ℔ lb	1½@ 3
Cabhage, choice garden, ℔ 100	50@ 60
Cauliflower, ℔ doz	40@ 50
Corn, Alameda Sweet, ℔ crate	1 00@ 1 50
Corn, Berkeley, ℔ crate	65@ 1 00
Corn, Vacaville and Winters, ℔ crate	— —@— —
Corn, Green, ℔ sack	50@ 75
Cucumhers, Alameda, large box	10@ 25
Egg Plant, ℔ box	25@ 40
Garlic, ℔ lb	1@ 1½
Okra, Green, ℔ box	25@ 50
Onions, Red, ℔ cental	—@ —
Onions, Yellow, good to choice	30@ 37½
Peas, Green, ℔ sack	50@ 1 00
Peppers, Green Chile, ℔ hox	25@ 50
Pepper, Bell, ℔ large hox	40@ 50
Pickles, No. 1, ℔ 100 lbs	75@ 1 25
Pickles, No. 2, ℔ 100 lbs	50@— —
Rhuharh, ℔ box	—@ —
Squash, Bay, ℔ large hox	15@ 25
Tomatoes, River, per large hox	40@ 50
Tomatoes, Bay, ℔ box	50@ 60

Potatoes.

Market has shown more steadiness since last review, due more to decreased arrivals tban to any noteworthy increase in the demand. Some of the heaviest producers stopped forwarding, owing to the unprofitable figures realized. While there is a little better tone throughout, there is little firmness for other than the most select.

IN SACKS.

Early Rose, River, ℔ cental	30@ 40
Peerless, River	—@ —
Garnet Chile, Mission	50@ 60
Burhanks, River	30@ 40
Burbanks, Salinas	60@ 90
Sweet Potatoes	1 25@1 75

The Fruit Market.

Fresh Fruits.

This market has shown less demoralization than immediately prior to last review, and bids fair to present on most descriptions a moderately good condition for sellers during the balance of tbe season. Arrivals from tbis time forward will naturally be less excessive, and as a great proportion of the late summer fruits show better keeping qualities than much of that arriving during the mid-summer period, there will be less necessity for speedily crowding offerings to sale.

Apples are arriving sparingly, and are mostly of quite ordinary quality. There is no active inquiry, owing to the abundance of other and more seasonahle fruits, but choice to select apples are by no means neglected, and are bringing very good figures, all tbings considered.

Pears of ordinary quality have heen in rather heavy supply, No. 2 Bartletts constituting the bulk of offerings, and prices for this sort did not recover materially. The glut of the season is about over, however, and there is reason to anticipate better prices the coming week for fair to good. Choice to select have been scarce all the season and market for this description is firm.

Peaches are showing decided decrease in receipts and corresponding improvement in prices. Choice freestones are the scarcest, and sell at present to a little better advantage than clings, unless latter are strictly fancy.

Plums and prunes did not command very firm figures, the demand being mainly local and for immediate use, but prices have averaged slightly better than had been ruling.

Nectarines made a poor showing, tbe season for this fruit being nearly ended. Buyers were few, however, and values did not advance to any noteworthy degree.

Figs were in slim receipt, witb inquiry correspondingly light, and, unless the quality was considerahly above the average, tolerably low figures had to be accepted to effect prompt sales.

Grapes are beginning to make a very respectable display, hoth as to quantity and variety of offerings. Market for this fruit is a little easier, a natural sequence of increased supplies, but comparatively good prices are still prevailing, particularly for qualities of high standard. Quotations show several additions.

Watermelons were in heavy stock and ruled low, although the weather most of the time was all that could he desired for extensive use of this fruit. Cantaloupes were offered more freely than was warranted hy the demand and sold at very low figures. Nutmeg melons were also plentiful and cheap.

Strawberries of the Longworth variety were in lighter receipt and higher. The large size berries sold close to former figures. Blackberries and raspberries received little attention, despite limited offerings. Whortleberries were in moderate supply and met with fair inquiry, mainly from restaurants and bakers.

Apples, Gravenstein, fancy, 4-tier	75@ 1 00
Apples, Gravenstein, 50-lb box	60@ 75
Apples, Red Astrachan, 50-lb box	—@ —
Apples, Green, ℔ 50-lh hox	30@ 60
Crahapples, ℔ hox	25@ 50
Figs, Black, ℔ 2-tier 15-lb hox	50@ 75
Figs, Black, ℔ 1-tier hox	30@ 50
Figs, White, ℔ hox	25@ 50
Nectarines, Red, ℔ hox	50@ 65
Nectarines, White, ℔ box	25@ 40
Prunes, Falkenhurg, ℔ crate	35@ 50
Prunes, Hungarian and German, ℔ box	20@ 30
Peaches, fancy wrapped, ℔ hox	50@ 60
Peaches, good to choicc, ℔ hox	35@ 50
Peaches, Freestone, per ton	20 00@25 00
Peaches, Cling, per ton	20 00@30 00
Pears, Bartlett, ℔ ton	10 00@20 00
Pears, Bartlett, No. 1, per hox	40@ 60
Pears, Bartlett, No. 2, per box	15@ 30
Pears, other kinds, ℔ hox	15@ 35
Plums, choice, large, ℔ box	35@ 50
Plums, other kinds, lb hox	15@ 35
Plums, ℔ crate	30@ 60
Nutmeg melons, ℔ hox	30@ 50
Watermelons, per 100	5 00@10 00
Canteloupes, per crate	30@ 75

Berries.

Blackberries, ℔ chest	2 00@ 3 50
Currants, Red, ℔ chest	— —@— —
Raspberries, ℔ chcst	3 50@ 5 00
Strawherries, Longworth, ℔ chest	4 00@ 5 00
Strawherries, Large, ℔ chest	2 50@ 4 00
Whortleherries, ℔ lb	6@ 8

Grapes.

Black Hamhurg, ℔ hox	35@ 50
Fontainehleau, Cal., per crate	35@ 50
Fontainehleau, Cal., per hox	25@ 40
Muscat, per hox	40@ 50
Muscat, ℔ crate	50@ 60
Rose of Peru, ℔ box	40@ 50
Rose of Peru, ℔ crate	50@ 60
Royal Isabella, ℔ crate	1 50@ 2 00
Seedless Sultana, ℔ hox	50@ 60
Tokay, ℔ crate	65@ 75

Dried Fruit.

The dried fruit market on the Atlantic side is thus outlined by a New York circular:

The weather has continued excessively hot and little husiness has heen done this week. Stock has hcen held pretty much the same in price, holders thinking lower figures would not widen the outlet to any extent. Old evaporated apples are urged for sale at figures given helow, hut outside prices are very extreme and buyers of important quantities could doubtless shade inside quotations a fraction. Very few new evaporated here as yet and not enough husiness to establish quotations. There has hcen some movement in new fruit for Septemher and Octoher delivery; makers gcnerally ask 4½c for prime and 5c for choice, hut those figures have hcen shadcd in instances. New chops for latc dclivery are offered freely at 1¾c and cores and skins 1¼c. hut those figures are above huyers' ideas and are occasionally being shaded; some cores and skins in bags are reported sold at 1c. and speculators would take more on that hasis. Scarcely any movement reported in sun-dried apples, and few, if any, old chops or waste left. Peaches entirely nominal. Raspherries occasionally held at 16c, hut that is extreme. New huckleherries in small supply and held at 7½@8c, but 7½c is extreme for old and some old foreign offer down to 6½c. Cherries have little attention and prices a shade lower. No movement in blackherries. California apricots have a steady demand at 7½@9c for common to prime Royals and tone is firm. Not much doing in California peaches or prunes, except new prunes, which are moving freely for late delivery at 3¼c and less.

While the local dried-fruit market is far from being in an encouraging or satisfactory condition for producers or sellers, there is some business doing, with prospects of a little more life heing experienced in the near future. The last Australian steamer carried over forty tons of dried fruit for the colonies, a large portion of the same being of old crop. A moderate business on Eastern account is reported in carload lots of new fruit. Values realized, however, were in most instances at a low range.

Apricots show steadiness for fair to good at previous quotations, while for choice to select there is a decidedly firm tone, holders who are forehanded being slow to let go at rates now obtainable. Fancy Royals and select Moorparks are not to be had in very large quantities at any price.

Peaches have been ruling in buyers' favor, with sales at drying points at 3¼@3½c. Purchases of quartered pears and white or yellow nectarines were possible at same figures. A carload of peeled peaches, strictly choice, was placed at 11½c on Eastern account.

Prunes are held mainly at 3c for the four sizes, with not much doing at present in this fruit. It is yet early for the prune trade, and most sellers are content to await future developments.

Apples are not offering in large quantity, either spot or to arrive. The market shows much the same firm tone as previously noted.

Quotations below noted are on a conservative basis, being based mainly on prices obtainable from close cash buyers.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	6 @ 6½
Apricots, Royal, fancy	6¾@ 7
Apricots, Moorpark	9 @10
Apples, in hoxes	5 @ 5½
Nectarines, White	3¼@ 3¾
Nectarines, Red	3 @ 3½
Peaches, unpeeled	3½@ 4½
Peaches, peeled	8 @11
Pears, peeled and sliced	4 @ —
Pears, halved, unpeeled Bartletts	5 @ 6
Pears, quartered, unpeeled Bartletts	4 @ 5
Plums, pitted	3 @ 3½
Prunes, in sacks, 4 sizes	2¾@ 3
Prunes, in sacks, small sizes	1½@ 2

COMMON SUN-DRIED.

Apricots, ordinary	— @ —
Apples, sliced	2 @ 2½
Apples, quartered	2½@ 3
Figs, Black	1½@ 2½
Figs, White	3 @ 4
Peaches, unpeeled	3 @ 3½
Plums, unpitted	1 @ 1½

Raisins.

Not much activity reported in this line, but the market is showing a firmer tone for large raisins. Of the output of loose Muscatel this season, it is estimated that from 60 to 75 per cent will be three-crown stock. The growth of tbe grape was checked by the extremely warm weatber of the past few weeks. Some who sold heavily of four-crown are now regretting their course.

FIRST HALF OCTOBER SHIPMENTS.

Fancy Clusters, per hox	1 40@ 1 50
Boxes, London layers, 20-lb hox	1 05@ 1 10

(Usual advance for fractions.)

Loose Muscatel, 4-crown, ℔ lb	3¾@4
Loose Muscatel, 3-crown	3 @3⅛
Loose Muscatel, 2-crown	2½@2¾
Sultanas	4 @4½
Seedless Muscatel	2½@ —

Citrus Fruit.

Lemons bave heen in fair request, the warm weather prevailing causing consumers to take hold more freely of this fruit. Prices have ranged a little higber than last quoted, but the firmness which existed was confined largely to select qualities. Limes were offered at unchanged figures, with demand good, but supplies equal to requirements.

Oranges—Wash. Navels, ℔ hox	2 00@ 3 00
Cal. Mediterranean Sweet	— —@— —
Cal. Seedlings	1 50@ 2 00
Lemons—Cal., select, ℔ hox	3 50@— —
Cal., good to choice	2 50@ 3 00
Cal., common to good	1 50@ 2 50
Limes—Mexican, ℔ hox	5 00@ 6 00
Cal., small hox	1 00@ 1 25

Nuts.

In spot stocks of old crop there is nothing doing worthy tbe name of business, and very little to operate upon. Some new almonds have heen sold for forward delivery at the reported figures of 6@6½c for Softshells and 8@8½c for Papershells. In new walnuts dealers report no transactions up to date.

California Almonds, paper shell	7 @ 8
California Almonds, soft shell	4 @ 6
California Almonds, standard	3 @ 3½
California Almonds, hard shell	2 @ 2½
Walnuts White, paper shell	11 @12
Walnuts White, soft shell	9 @10
Walnuts White, Cal., hard shell	7 @ 7½
Peanuts, Cal., fair to prime	4 @ 5
Peanuts, Eastern hand-picked	5½@ 6½
Pine Nuts	12 @14

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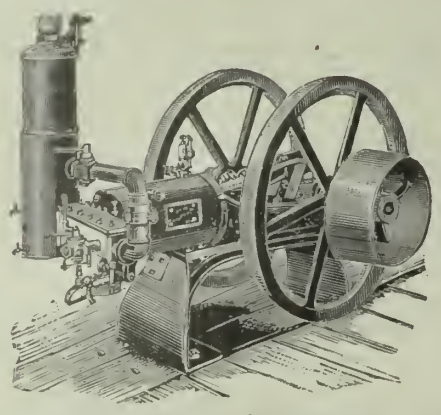

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Gasoline (74 deg.), ten hours' run, 8¾ gallons @ 14c.	1 25
Coal Oil, ten hours' run, 7½ gallons @ 10c	75
Crude Petroleum, asphaltum base, 16 gallons @ 3c	48
Crude Petroleum (36 deg.), paraffine base, 13 gallons @ 5c	65

On the crude petroleum with asphaltum base we had an over-product of 7 gallons of asphaltum; the market price is 3 cents per gallon=21 cents. This deducted from the first cost of the crude petroleum for ten hours' run leaves a net balance of 27 cents. And from the crude oil with a paraffine base we had an over-product of 3 gallons of good lubricating oil, which we consider equal to any we have ever used, but will estimate its value conservatively at 20 cents per gallon, making 60 cents; this deducted from the first cost of the crude oil leaves a balance of 5 cents, total cost of running ten hours.

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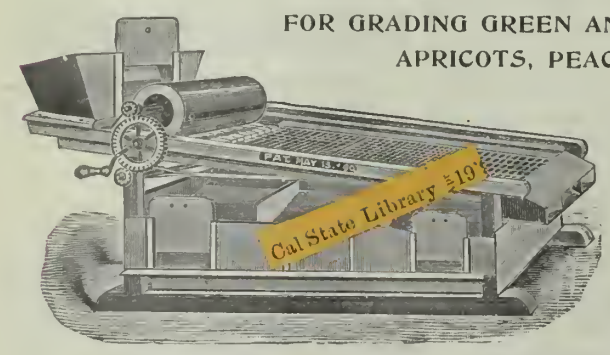

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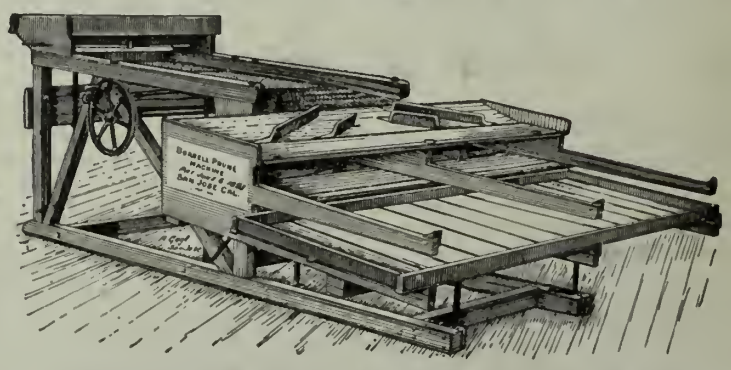

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THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LII. No. 10. SAN FRANCISCO, SATURDAY, SEPTEMBER 5, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.

This Paper not to be taken from the Library.

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Fuel Value of the Eucalyptus.

The eucalyptus tree has already rendered immeasurable value as a fuel producer in the treeless regions of California, and is destined to remain in such important service for all time to come. In his book on the eucalyptus, Mr. Abbott Kinney pays due regard to this branch of the subject and notes the fuel and timber value of the different species he describes. As the *Eucalyptus globulus* was earliest to get access to California soil, it has been the chief factor in the eucalyptus fuel supply, and fortunately it is a most excellent species in this particular. The engraving, showing vast piles of prepared fuel secured by thinning out thickly planted forests, gives an idea of how much wood can be secured and still leave an abundance of trees for larger growth and later cutting. Such sights as the engraving presents can be seen in all parts of the State where the blue gum has declared its satisfaction with the local climate. The re-foresting quality of the blue gum is notable. It volunteers freely from the seed and will constantly and rapidly extemd the area if seedlings are not disturbed. It comes from the stump in perfect masses of shoots, which can be thinned down to the best one when all have reached size enough to yield small firewood. In the future there will be very many species contributing to California's fuel supply.

EUCALYPTUS FIREWOOD PILED IN A FOREST NEAR LOS ANGELES.

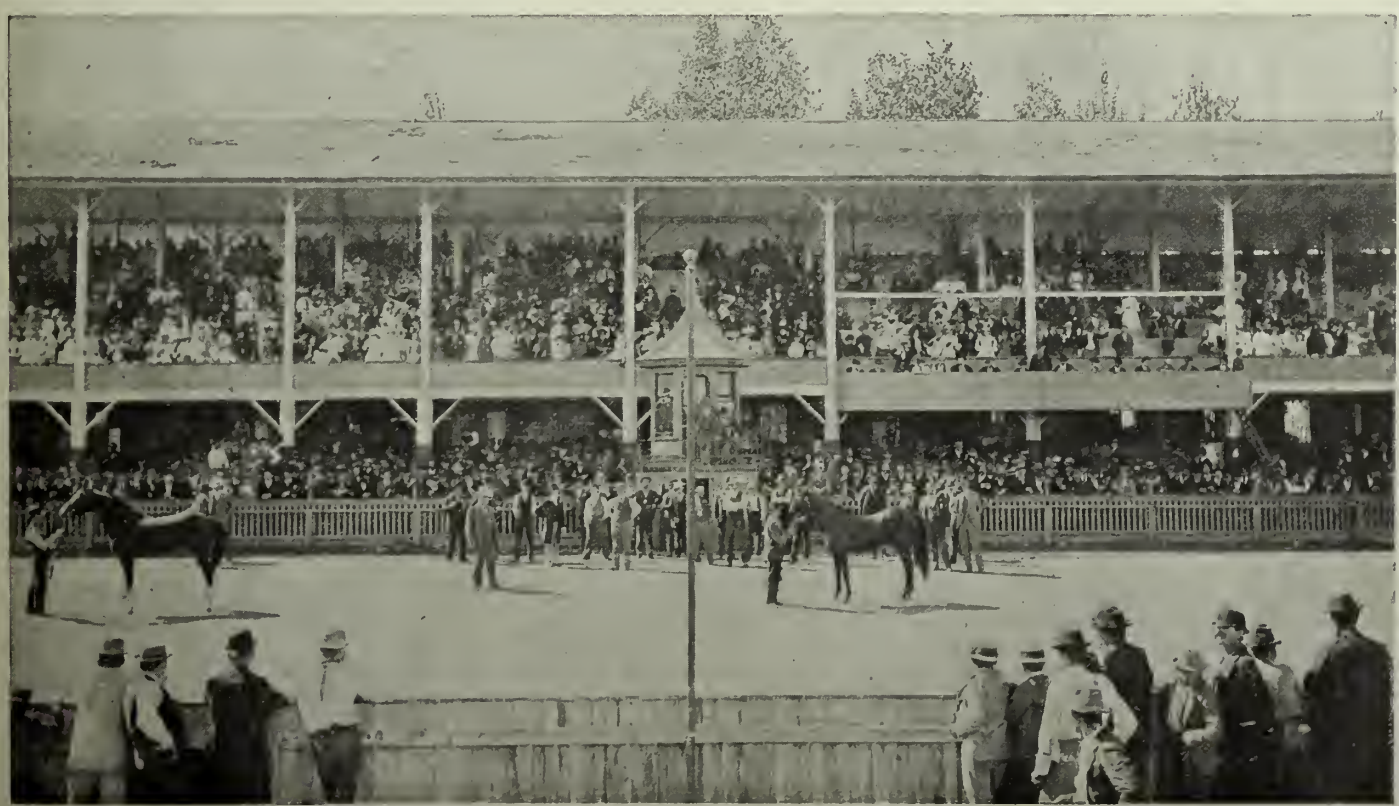
At the State Fair.

This is the first week of the State Fair and the capital city is filling up rapidly with the votaries of the park and the pavilion. Fortunately Sacramento is not appalled by a throng of people. Forty years of State fairs and of legislative sessions has given the place an elasticity which laughs at numbers. The opening scenes of the first half of the first week seem to indicate that in spite of dull times and counter attractions in the form of political meetings and another fair in San Francisco, there will be no lack of people or of things to instruct and to entertain. This year's fair will remain open nearly three weeks, instead of two weeks, as in former years. Exhibitors are proverbially slow in getting ready for the opening day, owing to the fact that a large crowd is, as a rule, not in attendance on that day, but we are told that this year the pavilion was further along on opening day than it has ever been before.

The scene from the main entrance of the pavilion is one of spectacular beauty. The galleries are drapped in green and the other predominating colors are blue, red and yellow, with here and there a strip or an expanse of white. The flags and banners, together with the main colors of all States of the Union and all nations and principalities of the Old World, hang from the lofty roof or adorn the walls. Great draperies of color also hang from the rafters, and the pinnacles of some of the taller exhibits are lost in the clouds of flags and festoons. Much in evidence are the bear flag and "Old Glory." Over the entire main floor there is a sky of variegated colors.

There are many notable displays in the pavilion. One which attracts much attention is described as a brilliantly illuminated arch of fruit. The semi-circle is composed of handsome glass jars of preserved fruit, and across the top of the arch is an electric flag, the red, white and blue portrayed in incandescent electric bulbs, even to the forty-five white stars on a field of blue. This arch spans the entrance to the great wing of the main building, in which is located the department of horticulture and viticulture. This is one of the most beautiful departments of the fair.

At the park great preparations are making for the series of speed contests, which attract such multitudes to Sacramento. The engraving on this page gives but a faint idea of the throng, for it is evidently a morning scene during the judging of horses, and people care less for that than they do for the racing. And yet there is really more for the lover of good horses and for the study of the equine form on judging mornings than in the tumultuous assemblies during the racing events. There may be less sport, but there is vastly more sense.



Salvator. Tenny.

SNAP SHOT AT THE GRAND STAND DURING THE STATE FAIR AT SACRAMENTO.

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ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, September 5, 1896.

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The Week.

Weather and Crops.

The fall rains have appeared unusually early and in rather large amount. As shown by the table below showers have fallen in all parts of the State. Here and there heavy downpours have occurred beyond the districts named in the table, for on the Mojave washouts have occurred sufficiently serious to interrupt railway travel. Fortunately, in the fruit drying districts south the rain was light, but in the Sacramento valley there was too much water for exposed fruit and other property. Following the rain, high temperatures have prevailed which have done much to reduce the evil of untimely soaking.

The following data for the week ending 5 A. M. Wednesday, Sept. 2, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	.62	.68	.36	.55	68	52
Red Bluff	.54	.54	.26	.15	90	56
Sacramento	.20	.20	.04	.07	*	54
San Francisco	.06	.13	.01	.07	72	54
Fresno	.14	.20	T	.02	98	58
San Luis Obispo	.20	.24	T	*	84	48
Los Angeles	.06	.07	T	.09	90	60
San Diego	.02	.06	....	.09	86	62
Yuma	.12	.50	.01	.52	104	72

* Indicates no record.

The Farmers' Institutes.

Last week becomes somewhat notable in agricultural annals for the holding of the first six days of Farmers' Institutes under the newer and broader plan adopted by the Regents of the State University, as outlined some weeks ago in these columns. The first meetings were held in the far south, in San Diego and Orange counties, simply because the people of the south show the greater interest and appeal to the University for the service. This condition of affairs has prevailed for some time and it is only to the just credit of the people to admit that they manifest a greater appreciation of progressive agricultural agencies than people of other parts of the State have manifested. It is not expected that such superiority can be conceded to the south, for the prominent way in which the work is now to be put forward will command interest everywhere. Of the practical value of Institutes in eliciting pertinent agricultural information, probably no better testimony could be adduced than the character of the papers which occupy so large a share of the space in this week's RURAL.

The Organization of Institutes.

The University of California now has two able and energetic friends of the movement at work in its behalf. One of these is Prof. A. J. Cook of Claremont, Los Angeles county, the excellence of whose work has been freely mentioned in these columns. The meetings of last week were organized by him and to their conduct he had as associate Prof. Wickson. Meetings in progress this week in Los Angeles county were also organized by Prof. Cook and Prof. Hilgard and Mr. Shinn are with him in conducting the proceedings. Of course at all these meetings there is a goodly host of local speakers and writers and a throng of eager attendants who are constantly engaged in giving and receiving new light on the many important topics which arise. In the organization of meetings north of the Tehachipi, Mr. Edward F. Adams of Wrights is now giving his services without compensation and is proceeding with his well known energy in pushing things which he believes in.

The Transactions of the Institutes.

Following its usual course in selecting matters of the most direct application to local agricultural practice, the RURAL gives preference to those items of the proceedings of the meetings which convey information as to how California producers are actually producing things. As between a great truth and a practical lesson, the RURAL always chooses the latter as involved in its special function as a teacher of the best California farm and garden practice. The RURAL chooses these facts rather than the lectures of the distinguished professors, not because the latter are less important, but because they can be heard at different institutes and because they are of such a nature that an abstract would do them injustice. On the other hand, the local papers on practical topics are usually brief, and, unless given general circulation in such a journal as the RURAL PRESS, would be unheard beyond the limits of the county in which they are produced. The RURAL has the fullest commendation for the professors and the larger space for the unprofessional contributors of the different localities.

At El Cajon.

The visitor who now proceeds in an easterly direction from San Diego to El Cajon is apt to wonder what has become of so much of the cactus desert through which he struggled years ago to reach the famous valley. The fact is that much of the waste has been transformed into vast stretches of citrus orchards, and flowing water charms the eye which formerly closed with flying sand. Lemon Grove and La Mesa and other centers of improvement show clearly what work and water will do with the cactus lands above San Diego bay, and afford a foretaste of what the whole region will become ere long. In the Cajon there are shades of desolation over much of the lower central lands because of the slump in the raisin industry, but the benches around the rim of the valley, on the other hand, show that most gratifying improvements have been achieved during the last few years. Pioneers in the valley, of whom RURAL readers heard so much twenty to twenty-five years ago, are still there, as devoted horticulturists as ever, but they have now scores of neighbors who have brought energy, wealth and confidence and have outstripped the pioneers in the greatness of their doings. And this passing by does not displease the pioneers. They know that their brave, early deeds pointed the way to the later achievements. We do not remember seeing in any locality a more cordial, neighborly spirit than in the El Cajon valley, and it was not surprising that the announcement of a Farmers' Institute should gather a multitude beyond the seating capacity of the largest auditorium available. The two days' meetings were full of activity and interest. One of the most important proceedings followed the able address of Mr. T. H. B. Chamblin of Riverside on the subject of co-operation in fruit marketing as illustrated by the success of the Southern California Fruit Exchange. Mr. Chamblin showed that this movement had resulted in a restoration of confidence in southern citrus fruit growing by securing a method of sale which yielded growers fair returns for their labor and investment. It is the present purpose of the exchanges to include raisins and other dried fruits in their operations, so that their representatives at the East may be kept busy all the year. They will also invite other parts of the State to participate in their efforts, and the co-operative raisin establishments in the Fresno district are expected to come in with this year's crop. As an immediate result of Mr. Chamblin's efforts the El Cajon people took steps to organize for the marketing of their own products.

At Fallbrook.

The Fallbrook region of San Diego county gave a warm welcome to the Institute workers. Fallbrook comprises a very beautiful elevated region with a safe climate for citrus fruits and olives—the latter fruit having been already planted in very large area. According to the statistics collected by Zenas Freeman there were 851 acres of olives, 384 acres of lemons, 130 acres of oranges and 300 acres of miscellaneous trees planted up to 1895. The Red Mountain Ranch of F. F. Adams and E. M. Frank is one of the best kept and fullest equipped fruit properties in the State, and there are other holdings which show great enterprise and skill. The Fallbrook meetings were such as might be expected among people who can show such disposition and deeds, and their interest in the Institute work is clearly shown in the following resolutions which were unanimously adopted:

WHEREAS, It appears from the report of Board of Regents of the State University that the present financial appropriation is wholly inadequate to meet the wants of the University on account of the largely increased number of young men and women now seeking its benefits, which indicates the growing appreciation and demand of the people of the State; and

Whereas, The people of all parts of the State are greatly benefited by the "University Extension" movement, known as Farmers' Institutes, which movement is dependent upon the proper support of the State University; therefore

Resolved, That we, as members of the Farmers' Institute held at Fallbrook, August 26th and 27th, 1896, urge our representatives in the State Legislature to use their influence and make earnest effort for the securing of adequate appropriations for the support of the State University and especially for the further prosecution and perfecting of the Farmers' Institute work.—Judson Williams, C. A. McDougall, Zenas Freeman, Committee.

At Fullerton.

The last two days of the week's institutes were given to Fullerton, Orange county, in the rich low lands which are famous for their walnut product as well as for tall corn, large vegetables, rich milk and other animal values, while adjacent are orange and other fruit lands. It is a notably productive region and the residents took a wider range of topics at their institutes than characterized the work earlier in the week. Other pages contain some of the Fullerton papers and others will come later. A very good degree of enthusiasm was aroused and the movement on the part of the University was earnestly supported.

Pith of the Week's News.

THE New York firm of Hilton, Hughes & Co., successors to the late A. T. Stewart, has failed.

"LUCKY" BALDWIN has determined, so he says, to abandon the turf, and offers all his racing stock for sale.

THE California Powder Works near Pinole blew up on Tuesday killing twelve workmen. Cause unknown.

IN a drunken brawl on a Stockton boat last Wednesday, Dennis Herlichy was knocked overboard and drowned.

THE receivership of the Northern Pacific Railroad has been dissolved and the property turned over to the reorganized company.

THE Washington Republicans have put forth a platform in accord with the St. Louis declarations. A declaration for woman suffrage was voted down.

THE New York Republicans have nominated Frank S. Black of Troy for Governor. The platform calls for protection and maintenance of the gold standard.

VERMONT elected State officers on Tuesday, giving the Republican candidates about 35,000 majority. The Republican majority in normal times is from twenty to twenty-five thousand.

H. J. BUTLER, manager of a liquor cure establishment, has gone wrong at Los Angeles, and his ruin is attributed to intemperate habits. Butler is not the first physician who has failed to heal himself.

THE strike of mine workmen at Leadville shows no sign of reaching an end. The latest suggestion is to flood the mines for a term of years. This would practically wipe the town out of existence, since mining is its only productive industry.

PRINCE LOBANOFF, principal Russian Minister of State, died suddenly in the presence of the Czar on Sunday. The European journals are crying out that his death may change the map of Europe, but this is nonsense. The time is past when the life or death of any minister is more than an incident.

FOR reasons not fully explained, three English war ships trained their guns for thirty minutes on the Sultan's palace at Zanzibar last week and left it a mass of ruins. The Sultan, who is alleged to be an usurper, fled, and his place has been filled by a prince satisfactory to the English. Just what business England had to interfere in the matter is not made clear.

SIDNEY S. MILLER, a street car conductor in San Francisco, after thrusting his aged mother out of the house into the street, caused her arrest on a charge of disturbing the peace. It is the first instance of the kind on record in California and has created widespread indignation. The judge gave Miller a terrible scoring and declared his regret at being unable to punish him as he deserved.

LI HUNG CHANG has been royally entertained in New York, both by representatives of the Government and of the people. Among the incidents of his visit was a pilgrimage to the tomb of General Grant, upon which he placed a beautiful wreath. Later the great visitor called upon Mrs. Grant and was by her presented with a fine portrait of her late husband. Li will return to China via Canada and the northern ocean route.

AFTER a busy week in New York, where he spoke to large audiences four or five times daily, Candidate Bryan has gone to Ohio and will spend some time there. The wish to hear him is universal, and wherever he goes vast crowds come out to welcome him. His whole talk is about finance. The tariff and all other questions he declares to be subordinate and relatively unimportant. Considering the amount of talking he has to do—running into many newspaper columns each day—he does it wonderfully well. Everything he says is clear and plain as can be, and there is no misunderstanding his meaning.

THE Democratic campaign was formally opened last Saturday night by a rousing meeting at San Francisco. Senator White was the star speaker and he was followed by C. D. Lane and others. The crowd was large and there was no end of enthusiam. General plans for the campaign throughout the State are not complete but there will be meetings everywhere under the direction of the State committee. Bryan clubs are being formed in each county and a good deal of oratorical talent is being brought to the front. The Republican campaign is already well under way and such speakers as W. H. L. Barnes, M. M. Estee, George Knight and others are actively in the field. On both sides in this State it will largely be a campaign of oratory; and as there is fine oratorical timber in abundance there is likely to be good entertainment all along the line.

IN the first three days of the current week three cases of brutal wife murder occurred in California—one in Fresno and two in San Francisco; and there is something like this almost every week. Never within our recollection has the spirit of murder been so abroad in the land. The fact that murderers find it easy to get off is perhaps among the causes of this terrible condition of lawlessness. The spectacle of Durrant,

alive, comfortable and hopeful eighteen months after his terrible crime and nearly a year after his conviction, is no doubt responsible for the recklessness so frequently and wantonly exhibited. If we are to stop this sort of crime we must have a reform over criminal laws; and the most effective reform would be to abrogate the law which allows appeal after appeal to the higher courts. The court which convicted Durrant was just as competent as the court before which his appeal is now pending; and its sentence ought to have been carried out without interference.

As the Rural goes to press on Wednesday afternoon the gold-standard or anti-Bryan Democrats are holding their convention at Indianapolis. The membership is upwards of 800 and 31 States and three Territories represented. The general wish is that Cleveland shall accept the nomination, but it is stated by those who assume to speak for him that he does not want his name used. Many names are mentioned in connection with the Presidential nomination, but it is believed that the final choice will lie between General Bragg of Wisconsin and Henry Watterson of Kentucky. Of course, nobody expects the nominee to be elected, and the whole point of putting a ticket in the field is to create a diversion from the regular Democratic nominee. It is, in fact, a movement in the interest of McKinley. In the greater number of States, probably, no gold-Democratic electoral ticket will be put in the field. In California, so we are told, there will be no such ticket.

Within the last ten days the long-slumbering fires of race and religious hatred at Constantinople have broken into fury and the city has been the scene of a series of frightful massacres. One day upward of thirty Turks and Armenians were slaughtered; and the total number in the ten days foots up 200 or more. The victims thus far have been pretty evenly divided between the two races, but if the fighting shall be allowed to go on the Armenians must of course get the worst of it. The Sultan has openly espoused the cause of his own people and has ordered the banishment of the head of the Armenian Church from Constantinople. By these events the sufferings of the Christian population of Armenia is bound to be made vastly more severe. All restraints have been withdrawn and the Turkish soldiery and Kurds are now free to wreak their terrible will upon these defenseless people. England, to whose territorial and political interest all this is due, seems at last awake to the gravity of the situation. Her minister has been instructed to protest against the abuses of Christians, and a fleet of warships has been ordered to Constantinople.

Col. Chas. F. Crocker, Republican nominee for Presidential elector, has resigned owing to the fact that he was absent from the State during the period for registration and so failed to qualify himself to vote in the coming election. There is a question if this disqualification would not make him ineligible as an elector; and rather than assume any risk, Col. Crocker has chosen to draw out. Mr. W. W. Montague, one of the district nominees for Presidential elector has also resigned, his reason being "to restore harmony in the party." Neither of the vacancies have been filled up to the time of this writing. There is an interestiug piece of gossip current in connection with the case of Col. Crocker. He has, so it is declared, an ambition to be a Senator; and those who are managing his campaign feared to hurt his chances by submitting his name to a popular vote. Prejudice against the Southern Pacific Railroad Co., it was feared, might be reflected in popular discriminatiou against Crocker and so make his election to the Senate an impossibility. The Rural repeats this gossip for what it may be worth but it does not care to vouch for it.

Ex-President Harrison made a very notable speech at New York last Saturday, the most notable, perhaps, of any delivered thus far during the Presidential campaign. He began by declaring that he was on the Republican retired list not because of any age limit, nor at the pleasure at any convention, but because he had earned a rest and wanted to give younger men a chance. In his estimate of the situation, the most important consideration is with reference to the criticism of the U. S. Supreme Court by the Democratic platform. We can get over, he said, mistakes of policy with reference to finances or tariffs, but we cannot destroy or discredit so important and essential an element in our system as the Supreme Court without the gravest danger. In his view, the Democratic attitude toward that court is revolutionary and mischevious beyond any other proposition of the time. On the financial question Mr. Harrison declared himself as in positive and entire sympathy with the St. Louis platform. He believed free coinage would mean general bankruptcy and would turn back the wheels of progress in the United States at least half a century. The tariff question, Mr. Harrison dismissed with a single remark: The country "needed a lesson on tariff," he said, "and it has had it."

Major McKinley's formal letter of acceptance has at last been given to the public, and it has the merit of being a positive document. The financial question is given first place, and there is no attempt to dodge or to equivocate. The Republican nominee stands without reserve upon the platform. He thinks the free coinage of silver would put the country upon a silver basis and that it would be ruinous alike to national credit and to private prosperity. He regards international bimettalism as entirely practicable, and believes it may be accomplished by continued effort on the part of this country, provided we do no hing rash—that is to say, provided we do not drift to a cheap money basis and so lose our prestige. From this topic Major McKinley turns with manifest relief to the tariff, which he regards of far more vital importance than the financial issue. He believes that all the larger interests of the country are bound up in the tariff cause, and that, with wise laws regulating imports, every factory in the country may be started up, every productive industry revived and general prosperity restored. These are the main points of a letter which goes fully into consideration of all the larger subjects of national interest. It is a document which should be read by every voter, in connection with Mr. Bryan's address at New York in acceptance of the Democratic nomination. Both sides of the issues now before the country are clearly and ably discussed in these two documents.

The law imposing an internal revenue tax of 8 cents per pound on filled cneese and placing other restrictions upon its manufacture and sale will go into effect on the 4th instant. The claim is made that very little filled cheese is entered at this port, but Deputy Collector of Customs Farley says that he will not take any chances in the matter. It will devolve upon him to see that the duty is paid on all filled cheese entered here, and he says that he proposes to send every pound of cheese that is offered for entry, no matter what kind it appears to be on the surface, to the appraiser's stores to be chemically tested. The collector may decide upon some arrangement more satisfactory to importers, but up to this time he has issued no orders in regard to the matter.

Los Gatos Correspondence: "The first carload of prunes to leave here this year was shipped yesterday by Curt Roemer of the San Tomas Drier over the Sunset route for the Eastern market. This is not only the first carload to leave Los Gatos, but the county or State, and is the product of the one drier. Mr. Roemer should have had the honor last year, as the first shipment then made was gathered from two or three plants and was a combination shipment made two days prior to his first carload of his own preserving. Mr. Roemer is entitled to the belt, having won in two straight heats."

The English Hop Market.

Mr. M. H. Durst Writes in Criticism of Practices Now Prevailing There.

The Rural Press is in receipt of letters from Mr. M. H. Durst of Wheatland, California, temporarily resident in London, setting forth the methods by which the hop crop of California is marketed in England and criticising the actions of a firm of commission merchants in the hop trade.

In former years it was the habit of the great London brewers to go into the hop market upon the arrival of the new crop and to lay in a year's supply; but in recent times this practice has been given up and purchases on brewing account are made from time to time. as the necessity for actual consumption occurs. This change of plan on the part of the great consumers has resulted in the upgrowth in London of a class of hop merchants who buy hops upon their arrival and store them, to be sold later on in small lots to the purchasers. Another interest in the business is that of "hop factors," who are neither more nor less than commission merchants and whose dealings are directly with the hop merchants, who are their chief patrons.

Under this system it will be seen that it is everybody's interest, excepting that of the final purchaser, to maintain prices of the hop market. The "factor," having made large advances to the grower, naturally wishes to clear his client, and his commission, of course, is greater in proportion as ruling prices are higher. The hop merchant, having at most seasons a goodly stock on hand, wishes to keep up the value of the goods. The brewers, of course, want hops as cheap as they can get them, but their methods of business are reasonable and there has never been encountered any disposition on their part to hammer down prices to a point below the limit of profitable production.

Mr. Durst asserts in his letter to the Rural Press that within the last two or three years there has entered into the London market a firm whose methods are calculated to destroy the system which has for so long maintained the hop business on a profitable basis. He asserts positively that the operations of this firm are largely responsible for the demoralization in prices for Pacific coast hops which has prevailed during the past two seasons, and he estimates that the direct loss to Pacific coast hop growers for the season of 1895 alone was upwards of $1,000,000 in cash.

The method of this firm, who style themselves agents of California hop growers, is, Mr. Durst says, to secure large supplies of hops from this coast upon consignment and then offer them to the great brewers, putting prices far below the current market prices. Again and again, he asserts, during the past two seasons, they have issued circulars to the effect that they were in receipt, or about to be in receipt, of large consignments, which had to be sold regardless of price, and offering to put them into the hands of brewers at a price far below actual cost of production. In support of this charge, Mr. Durst submits the following copy of a circular put forth under date of October 17th, 1895, as follows:

Dear Sir:—We beg to inform you that consignments of 1000 bales of choice and fancy growths of new Californian, Oregon and New York State hops have just arrived in London which we are instructed by the growers to sell at once. The prices at which we can offer them are far below actual cost of production. (Signed) Horst Bros.

Also note the following as fixing prices quoted:

London, Oct. 26, 1895.

Dear Sir:—We send you herewith samples representing sixty-five bales choice Sonomas, 1895, and we offer all or part (conditionally) at 43 s. per cwt. cash. Free storage till wanted. These hops have just arrived in London and we have been instructed by the American Bank (which holds them against advances made to the farmer) to sell on arrival, hence we have put them to a price which is considerably below the market for choice hops. Yours truly, (Signed) Horst Bros.

With respect to this circular Mr. Durst says:

When it was issued there was no price established for Pacific hops. We had every reason to expect the market to open at 60 or 70 s. per cwt. (112 lbs). But, almost a month before the trade began to demand Pacific hops the brewers were inundated by circular letters from Horst offering hops considerably below the actual cost of production.

Horsts offered to brewers at 43 and even less shillings per cwt. as early as October while all during November and well into December we were realizing through the regular channels from 5 to 10 shillings per cwt. more than Horsts were offering to sell to brewers at.

Late in November at least one long line of 1400 bales were sold through the regular channels at 45 shillings. These same hops would have been worth at least 25 per cent more if ordinary business integrity and acumen had been used in trying to keep the market up, instead of doing everyting possible to produce a "slump." At the time there was no intention of or necessity for selling good Pacific hops at less than 60 shillings per cwt.

This price would be equivalent to 15 cents per lb. or 9 to 10 cents per lb. net f. o. b. cars California or Oregon. Until the circular came out no one offered hops at such price as "considerably less than cost of production." What right had any one commission man, acting in the interest of consignors, to begin offering hops below the cost of production in October, 1895, when every other dealer, factor and merchant was doing his utmost to have prices open at what would have been living prices?

Mr. Durst asserts in the most positive way that this tremendous cut in prices was made in the effort to establish business relations with the great London brewers at the cost of the Pacific coast hop growers, and that the interests of the latter were wholly disregarded. The consignors, he says, have had to stand in the breach, and the result is seen in the bankruptcy of the great mass of growers on the Pacific coast. Efforts are already being made, he says, to repeat this same ruinous method during the current year, and by way of proof he submits the following copy of a circular letter signed by Horst & Co., of date July 21st:

Dear Sirs:—California Brewing Barley.—We have just received a cable from our California office that they have forwarded samples of shipments of very fancy new barley. We shall only ship a limited quantity, but will be able to offer it even cheaper than last season.

We would be pleased to hear from you by return post whether we may submit samples and prices.

California and Oregon Hops.—We are now making contracts with farmers who require picking money, and who are therefore willing to sell part of their crop at ridiculously low figures in order to secure the advance of sufficient money to pick their entire crop. We, in turn, make contracts with brewers at a small margin.

If you feel disposed to protect yourselves against possible high prices by buying a portion of your requirements of Californian and Oregon hops, we can now offer them to you at very tempting figures, and, as E. Clement Horst of California attends personally to the business on the Pacific coast, and our Louis A. Horst to the deliveries in England, you may be assured of the very best deliveries.

We make a specialty of contracting at this time of the year, and fully realize the importance of making good deliveries in order to retain the confidence of the brewers.

This offer to sell at "ridiculously low figures" is, Mr. Durst says, in face of the fact that indications are favorable for conditions highly favorable for good prices. Hops, he says, had better be sold for chaff or thrown away than to be consigned in a way which will permit of their being sold at such low prices. He advises each hop grower in California to look about him and find out what are the methods of those to whom their consignments are made.

Mr. Durst says that last year the crop of the Pacific coast was about 2,00,0000 bales and that under normal market conditions it should have sold at about 8 cents per pound or $12 per bale; but owing to offerings at unheard of prices by those who have been trusted as consignees, there was a collapse in the market and the consequence was that last year's crop did not average but four cents per pound—not two-thirds the cost of production under the most favorable circumstances. "I will," he says, "take an oath that the demonetization was 90 per cent due to unbusinesslike, unreasonable and unfair methods." Every indication, he says, points to a short crop the world over. In England the weather is against ripening hops; in New York the crop is short; the output will be curtailed in California, Oregon and Washington, and there is no reason why, if a fair and decent method prevail, a living price should not be secured this fall and winter. Mr. Durst fears, however, that the same influences which wrecked the business last year will again be hammered down to a point literally below the cost of production.

Gleanings.

Fifty cents per hundred is the price paid pickers in the Oregon hop yards.

Vaca Valley will have "a fair average" prune crop, and the sizes will range from 40s to 80s.

J. H. Ohl of Yountville has leased the steel works property at Martinez and will use it as a winery.

Simon Koshland, a pioneer in the Pacific coast wool trade, died at his home in San Francisco on Monday.

Hop pickers at Pleasanton are being paid 70 cents per hundredweight, and white labor will be given the preference.

Many grain farmers in Butte county are holding their wheat in hope of better prices after the election. The warehouses at Biggs and Gridley, says the *Argus*, contain an immense amount of grain thus withheld from market.

Hollister *Advance*: Immense crops of wheat and barley are reported from the neighborhood of San Felipe. From 400 acres, R. E. Shore harvested 2400 sacks of wheat and 7600 sacks of barley. On many of the ranches the yield of twenty-four sacks of barley to the acre is not uncommon.

Buda Pesth, Aug. 27.—The Minister of Agriculture, Ignatius Daranyl, estimates the world's crops for 1896 as follows: Wheat, 825,000,000 hectoliters; rye, 424,000,000. The revised totals for 1895, as furnished by the Agricultural Department of Austria-Hungary, show that 875,000,000 hectoliters of wheat and 480,000,000 of rye were produced during that year.

Tulare *Register*: "The man with hogs and cows seems to be catching as many dollars these days as anybody who has reported. He may not be making a fortune in a year, but he is keeping even, and has something to depend upon to meet unusual demands made upon him. Besides the business keeps him in good spirits and peace of mind is worth more than a fortune any day."

"Wages in Sacramento valley," says the Oroville *Register* "have been reduced about ten dollars a month during the past few years. Three years ago farmers paid $30 per month where now they can get plenty of men to do the same work for $20 per month. One leading farmer told us in Sutter county this week that it was easier three years ago to get the $30 to pay with than it is now to get the $20."

A shower of crickets fell at San Rafael, Marin county, at 9 o'clock last Saturday night. On the Courthouse square, particularly, they could be noticed, as on the concrete it appeared as if a coat of black paint had been placed there. After they had fallen, they climbed up the sides of the buildings and many of them entered the residences there through open windows. When they seemed to be satisfied by finding a place to rest, they sent forth their chirrup, as though through thankfulness.

Last Saturday evening a shower of crickets fell at Los Gatos. After they had fallen they climbed up the sides of the buildings and many entered the residences through the windows. The first rain of the season began falling about 9 o'clock and lasted until morning. Seventy-hundredths of an inch fell during the night. Large quantities of prunes fell. The precipitation in the mountains near there was slightly over an inch and proved destructive to the hay crops not under cover. The drying of prunes was also interfered with, entailing considerable loss to driers, who have thousands of trays out.

The University and the Farmers' Institutes.

We give on other pages of this issue many interesting papers outlining the practical subjects presented at the Farmers' Institues in Southern California last week which we believe will be found to contain many valuable facts and suggestions. As indicating the relation of the University of California to these meetings, and to many others like them which are to be held in the future, we give a brief outline of the opening address made at these meetings by Prof. Wickson of the University:

Although the State University has provided for Farmers' Institutes for several years, it assumes at present a somewhat new attitude with respect to them, in that it undertakes a more pronounced initiative and declares itself more forcibly for their promotion, both for the advancement of the chief industrial lines of University work and for the advantage of producers through the wider dissemination of knowledge concerning the most successful and profitable phases of agricultural practice. This new attitude was declared by the Regents of the University by the adoption of an able report submitted by a special committee consisting of Regents Reinstein, Black and Rodgers, from which the following words are taken:

In the wisdom of the Republic which founded these State Universities, one purpose was never lost sight of by her statesmen, and should not be by us, and that was: "To promote the liberal and practical education of the industrial classes in the several pursuits and professions in life"—a duty we have fulfilled well for the professions in the affiliated colleges of the University in law, medicine, dentistry and pharmacy, and which we believe can and should be more fully carried out for mining and agriculture.

To accomplish these purposes, which have been enjoined on us as duties, we would suggest that the State should be divided as soon as possible into proper districts, and that there should be sent into those districts immediately authoritative representatives of the University, who should at stated times and places, of which ample notice should be given, meet those citizens who are engaged in fruit or wine culture, in general farming or in dairying, or in stock raising, and then and there avow to them the desire and the duty of the University of California to have a more thorough understanding of the requirements and wishes of the citizens engaged in such pursuits, and the powers, the purposes and the means of the State University in that behalf, all with the view of increasing the variety, value and amounts of the products of our soil. In other words, we hope that just as the University has done much for *education* by its visitation of all the schools in the State, so the University, through its Agricultural Department, will do equally well, if not better, for the material interests of the State by a similar visitation.

This ringing declaration of the purposes on the part of the Regents of the University gives the keynote of the appeal which the representatives of the University have to make to the producers of the State at this time. It is an appeal to any and to all of them to declare in what ways, in their judgment, the institution may better serve the important industries for whose promotion the University was established. Opportunity will be given at once and at any subsequent moment during these meetings for any suggestion which any citizen of the State may desire to make toward this important end.

Again, that this attitude of the University toward the agricultural interests here represented may be clearly seen, I quote further from the authoritative announcements of the Regents, as conveyed in a circular signed by Dr. Martin Kellogg, presiden tof the University, these words:

The Board of Regents of the University of California has arranged to hold throughout the State fifty meetings of those engaged in occupations dependent on the soil, at which meetings the representatives of the University of California will seek to bring about such a relation between the University and the agricultural interests of the State as shall minister to the welfare of all concerned.

A prominent purpose of these meetings is to obtain the opinion of those interested in agriculture throughout the entire State, as to the best means of spreading and practically applying the scientific teaching and knowledge of the University of California on agriculture and other industrial subjects. With the aid of such opinions it is expected to plan as soon as possible the best system calculated to accomplish that result and thereby increase the value and variety of the products of the soil of this State.

The hearty co-operation of the State University with all these interests must be of great mutual advantage, and it is hoped that the importance of these meetings will be as thoroughly appreciated by the agricultural interests as it certainly is by the University authorities.

After thus defining the attitude of the University in summoning assemblages of agriculturists and its sincere desire to receive from them any suggestions as to policies or methods by which they believe the efficiency of the institution may be increased, opportunity was given for response on the part of the audiences and several very good suggestions were made which will be duly reported to the Board of Regents for their consideration. In continuing his address, Prof. Wickson alluded to the wonderful growth of the institution and to its consequently largely increased requirements, and closed with allusions to the spirit and methods of Farmers' Institute work as conducted under University auspices and the cordial participation and appreciation which agriculturists are according to the effort.

A Big Peach Season.

(Tulare *Times*.)

For some time Bakersfield has had the reputation of growing the biggest peach in the world; but at last that reputation has been won by Visalia.

Major J. C. Berry brought in from the Visalia Fruit and Land Company's orchard an Orange Cling peach that weighs one pound and seven ounces. E. M. Graham weighed it in the store of S. Sweet Company carefully and it balances the scales at exactly twenty-three ounces. It measures 14 inches in circumference. This is without doubt the largest peach ever grown in the world. Major Berry is proud of this magnificent golden-hued peach. It will be sent to the State Board of Trade at San Francisco and placed on exhibition. Bakersfield's big peach weighed twenty-two ounces, so that our peach scales one full ounce ahead of all competitors.

TRAVER HEARD FROM.

(Traver Correspondence in Visalia *Delta*.)

One needs but to see the peaches that have been on exhibition this season at the *Advocate* office to become satisfied of the superiority of our county over the rest of the State for the production of this delicious fruit. Nearly a score of growers have submitted samples of fruit for exhibition in lots of eight or ten peaches, and these lots have invariably averaged from sixteen to twenty ounces per peach. No one peach has ever attained the weight of Major Berry's mammoth peach, but in lots of ten or more we would have no hesitation in comparing weights with any locality. Contrary to natural inference, this fruit loses none of its beautiful flavor in attaining this enormous growth; in fact, our experience has always been that the larger the peach the better the flavor. The thought has often been suggested, while enjoying this delicious fruit, that if Eve could have had a tree of Traver peaches as an alternative for the seductive apple, we poor mortals would not now be taxing our gray matter with the money question, but would be reveling amid the pleasures of Paradise, where everything is legal tender, from a kiss to the mere conception of a wish.

A Grower Describes the Advantages of the Sugar-Beet Industry.

The principal speaker at the recent mass meeting of Salinas Valley farmers was Jas. Bardin, who, having had much experience as a beet grower, was well qualified to instruct his hearers. He submitted the following figures as compiled from his own operations:

Statement of cost of a crop of beets raised in 1892 on 225 acres:

Cost of labor for planting	$ 450 00
Cost of seed	180 00
Use of beet drill	22 50
Barley to feed team while planting	150 00
Hay, 25 tons at $8 per ton	200 00
Wear and tear of implements	150 00
Total cost of planting	$ 1,152 50
HARVESTING.	
Men's wages, blacksmith, cook, etc	$ 900 00
Coal, team hire, etc	130 20
Boarding men	235 00
Wear and tear of implements and harness	100 00
Feeding teams	312 50
Total expense of harvesting	$ 1,677 70

Chinese Contract Labor.—The speaker said the labor was performed by Chinamen, which might have been done by white men.

Chinese contract labor at $1.65 a ton, total	$10,166 08
Freight to Watsonville, 75 cents a ton	4,561 27
Cost of planting	1,152 50
Cost of harvesting	1,677 70
Total expense	$17,557 55
RECEIPTS.	
12,163,393 pounds, or 6081 tons and 1393 pounds, making an acreage of 27 tons and 297 pounds per acre, at $5 a ton	$30,408 48

After commenting upon these figures, Mr. Bardin said:

"I bought a band of cows, calves and yearlings, which were nothing but a band of 'skates,' to eat beet tops. After eating them I sold the cattle to Moffat of San Francisco for Christmas beef at an advance of $500, making the total value of the crop $30,908.48; total expense, $17,557.55; net proceeds, $13,350.93. This divided by 225 acres leaves net proceeds per acre $50.33.

"There is," said the speaker, "just as much money now in raising beets at $4 per ton as there was at that time in raising them at $5 a ton, freight being reduced to 25 cents a ton, hoeing, thinning, topping and loading have been reduced to 65 cents per ton, and the crops can now be handled 10 cents a ton cheaper on account of improved machinery, making a total reduction of $1 cheaper than 1892."

The speaker went on to say: "The laborers had said things that were not true, because they hadn't stopped to think. They say harvesting season will be ruined. I propose to show you by figures that such is not the case." Here he gave statistics to prove that for every man that got a job on a grain crop 41½ men got a job on a beet crop. "The first time the Board of Supervisors met, sitting as a Board of Equalization, after I had raised this crop of beets they ordered me to appear and show cause why my land should not be assessed higher."

The speaker continued: "Mr. Spreckels can live handsomely without us, but I am not so sure that we can all live without him if we continue to raise barley. I've noted the fact before sugar beet culture commenced in Blanco when he approached farmers' houses a 'yaller' dog would come tearing over the fence, grabbing at the seat of his breeches, but new houses have been built, with blue grass and fragrant flowers, and when you meet the old man on the road he no longer rides in a squeaking cart with an old crippled horse, but in the finest kind of a surrey, behind two spanking steeds. The daughter, who used to wear jeans and calicoes, is now clothed in silks and satins, and the old woman, when she invites you into the back yard to see the finest breeds of poultry, forgets to say that before they commenced to raise sugar beets it was stocked with nothing but a band of 'dung-hills.'"

Weather and Crops.

Summary of the Conditions for the Week Ending September 1st.

The average temperature for the week ending Monday August 31st was as follows for the Weather Bureau stations named:

Eureka, 60°; Fresno, 78°; Los Angeles, 74°; Red Bluff, 78°; Sacramento, 70°; San Francisco, 60°; and San Diego, 72°.

The rainfall was for Eureka, .60 of an inch; Fresno, .15 of an inch; Los Angeles a sprinkle; Red Bluff, .50 of an inch; Sacramento, .20 of an inch; San Francisco and San Diego, .10 of an inch.

The precipitation of .20 of an inch at Sacramento was the greatest ever before known to have fallen during the month of August in a record of forty-seven years. In fact there were but four Augusts out of forty-seven that gave rain enough to measure.

There was a severe thunder and lightning storm twelve miles from Fresno where five mules were killed by lightning and the driver of the harvester was stunned by the shock. The extraordinary and very unusual phenomena of heavy rains in August has not injured any of the growing or maturing crops of the State. Highest and lowest temperatures 108° at Picacho, San Diego county and 40° at Hollister, San Benito county.

Sacramento Valley Counties.

TEHAMA COUNTY (Red Bluff).—Cloudiness has operated against fruit drying. (Corning)—Weather just right for drying.

SUTTER COUNTY (Southwest Sutter).—Beans are getting ripe. There are some fine crops on the low lands.

YUBA COUNTY (Wheatland).—Harvest is practically over with and the yield is thought to be slightly above the average. Hop yield will be light, but the quality promises to be of the finest.

PLACER COUNTY (Penryn).—The fruit crop is turning out extremely light, midsummer peaches, especially, being very scarce.

SACRAMENTO COUNTY (Galt).—Next week will wind up the harvesting. There will be a few patches of buckwheat on the river bottom lands that will probably not be harvested before October. (Sacramento)—Fruit is still being shipped in large quantities.

SOLANO COUNTY (Vacaville).—The pear crop of this valley far exceeds that of any year for some time.

CONTRA COSTA COUNTY (Walnut Creek).—Rainstorm of the 30th, nearly 1.50 inches, has ruined hundreds of tons of hay and damaged the dried fruit to a great extent.

Napa, Sonoma and Santa Clara Valleys.

NAPA COUNTY (Napa).—Canneries and fruit driers are running full blast. Grapes are maturing rapidly and the yield will be a good one, considering the season.

LAKE COUNTY.—The prospects for a heavy bean crop are very good.

SONOMA COUNTY (Bennett Valley).—The prune crop is short, but of good quality. There will not be more than half a grape crop, and the corn crop will be a short one.

ALAMEDA COUNTY (Niles).—Rain caught all of the drying fruit unprotected, doing considerable damage.

SANTA CLARA COUNTY.—.71 of an inch of rain fell on the 29th. Much damage will be done to the drying fruit that was exposed to the rains. Prune drying has begun, but the fruit is ripening very slowly. The weather has been bad for drying fruit, on account of lack of sunshine. Prune crop far short as compared with last year.

SAN BENITO COUNTY (Hollister).—There was a thunder and lightning storm on the 29th. Rainfall, 1.10 inches. Such a storm was never before known in this town at this time of the year. The amount of damage done cannot be determined at present, but it must have been great, as no one was prepared for rain.

San Joaquin Valley.

SAN JOAQUIN COUNTY (Lodi).—Some grapes are being shipped, but not in a large way as yet, and the crop will be a light one. No sale for melons and shipping has been suspended.

CALAVERAS COUNTY.—Grapes are not as ripe as they were at this time last year. Other fruits are matured as usual.

MERCED COUNTY (Merced).—There was little if any damage done by the rain storm of the 29th and 30th.

FRESNO COUNTY (Fresno).—The weather has been good for grape and fruit drying. Highest and lowest temperatures, 102° and 60°. The rain did no damage to the raisin crop, as warnings of the Weather Bureau were sent out in time to have the farmers stack their trays.

TULARE COUNTY.—Prune gathering has begun in this section. (Traver)—The prune crop is a heavy one. (Tulare)—The bulk of the peach crop has been gathered and the results, all things considered, have been quite satisfactory to the orchardists.

Southern California.

VENTURA COUNTY (Ventura).—Bean cutting going on, and while some fields indicate a heavy yield others are not worth cutting. Lemons and oranges are setting well. There was a light rain on the 29th throughout this county, but no damage was done to the bean crop.

LOS ANGELES COUNTY.—Prune crop, while not large, is of fine size and flavor.

SAN BERNARDINO COUNTY (Chino).—The delivery of sugar beets to the factory for the week has been very large. There has been a total of 19,661 tons delivered this season.

Coast Counties.

MENDOCINO COUNTY (Pomo).—Threshing is finished in this valley and the yield is a better one than was expected.

HORTICULTURE.

Some Little Known Semi-Tropical Fruits.

At the Southern California Farmers' Institutes, held last week, Mr. I. H. Cammack, the well known nurseryman of Whittier, Los Angeles county, had a very interesting paper, giving his experience and observation with some semi-tropical fruits which are not widely known in this State. His accounts will be found very interesting to those of our readers who live in thermal belts in various parts of the State and enjoy experimentation in new semi-tropical lines. Mr. Cammack very wisely cautioned his hearers to remember that California soils and climatic conditions are very diverse, and, while there are features in common, it is safest to proceed slowly in new horticultural lines until local trial warrants freer investment.

The Cherimoyer.—This fruit, botanically known as *Anona cherimolia*, is Mr. Cammack's favorite. He feels assured that this fruit affords more horticultural possibilities for the more protected, warmer parts of southern California than perhaps any other fruit tree not generally well known. It is a tree that will bear some exposure to frost—only a very few degrees, however—as it shows a tendency toward a period of dormancy, and will at least readily recover from such a period when enforced by exposure that it may not actually need. The cherimoyer is now growing in a number of localities of varying temperature, and Mr. Cammack thinks it can be grown almost as extensively as the lemon, and is certainly coequal with the lime and citron. There is now a large specimen of the tree standing on one of the lower levels of Los Angeles city, where it must undergo considerable frost, yet it extends its branches triumphantly above a housetop and yields fruit annually. Planting of the cherimoyer has been done in the Cahuenga valley, at East Whittier, at Long Beach, and, perhaps, elsewhere. The trees in bearing are beautiful specimens of health, vigor and fruitfulness, and are, I think, exempt from insect enemies.

The Cherimoyer Fruit.—The fruit, which matures chiefly through the winter and spring, can and should be gathered while yet firm and may be shipped for several days' transit successfully. At the end of from three to seven days, or even longer, it begins to soften and is then indescribably delicious. If it has a fault in this respect, it is almost too good. Imagine its pulp, the constituency of ice cream, or a custard flavored by a blending of pineapples and bananas; although sweet and without acid, yet delicious, without being sickish. One writer, speaking of it, says, extravagantly: "He who has not tasted the cherimoyer, has yet to learn what fruit is." Another avers that: "The pineapple, the mangosteen and the cherimoyer are considered the finest fruits in the world. I have tasted them in those localities in which each is supposed to attain its highest perfection—the pineapple in Guayaquil, the mangosteen in the Indian archipelgo and the cherimoyer on the slopes of the Andes—and, if I were called upon to act the part of a Paris, I would without hesitation assign the apple to the cherimoyer. Its taste, indeed, surpasses that of every other fruit, and Hanke was quite right when he called it the masterpiece of Nature."

Of course, not every one will like it so well. If it has a fault, says Mr. Cammack, it is almost too rich. With him it quickly surfeits, but one forgives a fault of this kind when we must confess the fault is with the taster and not the thing tasted. He is confident that at first it is more generally liked by Northern appetites than most tropical fruits.

The color of the fruit when ripe is brownish yellow, sometimes with a reddish cheek. It is often rather heart-shaped and usually contains a few seeds, the size of corn, which are very little in the way in eating. The skin is nearly smooth when ripe, though previously showing slight depressions all over, such as one's finger nails might make on a ball of putty.

The tree has proven hardy in the milder coast regions of Spain, where it is said to be grown quite extensively for the markets of Marseilles and Paris. The leaves are from 2 to 5 inches in diameter, ovate, pubescent, remaining until the enlarged growth of the branch throws them off. The branches have an upright habit of growth, the wood of which is rather brittle, and they have rather a weakness for splitting down from the larger branch or trunk; hence the tree ought to be protected from the gusts of wind, which are liable to split it down or snap the heavy foliaged branch asunder.

Market Value.—Mr. Cammack says the fruit that has been produced in southern California has been sold at from 60 cents to $2.40 per dozen, and he thinks it has an interesting and promising future before it. The plants, from 15 inches to 5 feet high, sell at 30 cents to $2 each, either potted or balled. The trees grow nearly true to seed, are never budded, and come into bearing about the fourth year. A six-year-old will produce hundreds of fruit if well cared for. They should have as much room as the orange tree and as good care for the best results.

The Avocado or Alligator Pear.—This tree (*Persea gratissim*) Mr. Cammack ranks next in importance to the cheirimoyer; at least, that is his present estimate of it. It is not a pear at all, except in appearance. The fruit, which sometimes weighs 2 pounds, contains one large seed, surrounded, when fully ripe, by a fleshy part of a bright yellow color; when seasoned with pepper or salt, it is much relished by many. It certainly is not so great a favorite as the cherimoyer, though it is stated that as long as ten years ago a single firm in New York sold an average of 300 to 500 fruits per week from June to November, the retail price being from 20 to 40 cents each. The fruit is said to ship well and to be steadily gaining in popularity in that city. One Florida writer claims the tree will easily yield 1000 pounds annually, beginning to bear at five years, and the fruit readily sells at 6 to 8 cents per pound, or, at the lowest, 75 cents per dozen.

The tree is handsome and vigorous, attaining the size of a rank apple tree, has large, oblong leaves of yellowish green color and is very ornamental. The young growth is of a rich wine color. It will stand some frost without detriment. With slight protection, they have survived as far north as Berkeley. The fruit ripens from August to October. There are three varieties: red, purple and green—the latter most highly esteemed. Young trees planted by Mr. Cammack are growing very thriftily and give excellent promise of success. The tree is rather difficult to propagate, from the fact that the fruit has but one large seed, which is hard to transplant in good condition to germinate. At present we have no stock upon which it can be propagated by budding.

The Melon Pawpaw (*Carica papaya*).—This tree has grown very thriftily with Mr. Cammack and has fruited freely. The diœcious one of his staminate trees has borne several fruits, but on long, pendulous stems, quite distinct from the fruit of the pistillate plant, which has set great numbers of magnificent specimens. Mr. Cammack's trees set fruit the second year, the fruit ripening in the third year. Owing to their rapid, tropical growth, the beautiful markings of the trunk and the enormous fig-like leaves, the trees are most striking objects among a variety of unusual plants. The fruit is pleasant to eat with salt, like a muskmelon. A gentleman from India, who visited Mr. Cammack's place, was much interested in the trees, and said he considered the fruit one of the most desirable fruits found by him in that country. Another traveler from the Sandwich Islands spoke of its repute there because of its peptic qualities as a cure for indigestion when eaten freely. The green fruit is said to be sometimes cooked like turnips, the buds are eaten as sweetmeats and the ripe fruit as a muskmelon, which it resembles in size, color and taste. The juice of the unripe fruit is said to be a powerful vermifuge, while the milky juice of the leaves and stem have a high reputation for making tough meat tender. It would seem that the plant ought to be popular. It is propagated from the small seeds, and the young plants must be handled with care, the roots being easily bruised and rotting away. If the plant is protected by a barrel the first winter, it will afterwards go through some frost unscathed. In well protected localities the plant should give much satisfaction, both for beauty and merit.

The Tree Tomato (*Cyphomandra betacea*).—This plant is easily grown, and Mr. Cammack believes it has not received the attention which its meritorious fruit should command. He commends the vigor and luxuriance of the plant, the exquisite perfume of its potato-like blossoms, its interesting habit of growth, with fruits green, purple and orange colored in their stages of development, and thinks it should secure recognition as an ornamental plant, even if its fruit is tardily appreciated. The cooked fruit is distinct enough and pleasant enough, in place between the apricot and tomato, to give it a permanent demand. It makes a fine jelly—the fairest Mr. Cammack has ever seen. The fruit, ripening from August to February, is easily handled and can be shipped easily across the continent. The plant produces its egg-shaped fruit the second season, and they may be used like tomatoes or apricots, or may be eaten ripe from the tree.

The Logan Berry in Southern California.

William M. Bristol of East Highlands, San Bernardino county, had an interesting paper at the Southern California Farmers' Institute, giving his experience with the Logan berry, which he considers a perfect success in his part of the State. He had photographs showing the fruit to be in length the full diameter of a silver dollar and the vine a most vigorous grower. He planted half an acre of the berries at East Highlands before he saw the fruit, relying upon the description in the reports of the University Experiment Station. The plants grew rapidly, many branches measuring at the close of first season 15 feet in length, and the total length of all the canes from one root reaching 300 feet. The plants were on good soil, but not fertilized. They were irrigated two or three times during the summer. To do well, the plants must evidently have enough to eat and drink. They cannot thrive on climate alone. Mr. Bristol now has five acres of Logan berries.

The Plant and Fruit.—The Logan berry has a trailing habit of growth much like the dewberry. It does not send up suckers like the blackberry and red raspberry, but reproduces itself by rooting at the tips of the canes. The new canes which are to carry the next year's crop spring from the main root. The thorns are very numerous, but are short and soft—not at all troublesome. The berry resembles the blackberry in shape, but averages larger. The color has been aptly described as a bright, dark red. The flavor has not yet been rendered in English. It is something like that of the red raspberry, but is more tart and sprightly and is generally improved by the addition of sugar. Like many hybrid fruits, it has small seeds and consequently a larger percentage of juice and pulp. The core, which remains in, as in the blackberry, is thick, soft and melting. The berry begins reddening before it is fully grown and has none of the bitter of the blackberry at any stage. This means that for jelly or jam it is unsurpassed. It begins ripening in San Bernardino county about the middle of May—the main crop lasting two months. It is somewhat inclined to produce second and third crops, a tendency which is increased by proper pruning. Mr. Bristol believes the Logan to be as remarkable in the berry family as the Navel is in the orange family. Eastern growers proclaim it the most remarkable fruit that has appeared in the past fifty years, and it is said to be perfectly hardy, at least as far north as Pennsylvania.

Walnut Growing at Rivera.

At the Farmers' Institute at Fullerton, Charles A. Coffman gave the results of his eighteen years' experience in growing walnuts in the neighborhood of Rivera, Los Angeles county.

Growing the Trees.—In planting the nursery select good nuts, a little above the average size, of good shape and well developed, of whatever variety you wish to grow. Plant as early as March if the season be favorable—that is, if it is not too cold and wet. If such is the case, later planting is better, but not later than the first of May, as the young plants are liable to sunburn if started in the heat of summer.

Location of Nursery.—Select rich soil on low ground, with water 4 to 5 feet from the surface, as the constant moisture keeps the young trees growing without irrigation, and they would naturally be transplanted to the orchard before the roots would reach the water, which would, of course, be injurious to the trees. I think there would be no danger of root knot among trees planted on subsoil, while if they are on light, sandy soil they are likely to have that disease; and if not, they make an inferior tree on such soil. This selection of soil near to water pertains strictly to the nursery. It would not do at all to have water so near the surface in the orchard.

Treatment of Seed and Seedling.—In nursery planting put the seed at least 18 inches apart, and if they all grow and are to be left in the nursery until three years old they should be 2 feet apart in the row and the rows 5 feet apart.

Transplanting.—Trees should not be transplanted after the leaves start. January and February are the best months for starting an orchard, although it might be done in March or April. The best practice is to dig the trees in the nursery as soon as possible after the leaves fall. Lift them carefully from the hole and and cut all the roots smooth with a sharp knife. If not ready to plant out at once, place them back in the hole and cover with dirt, leaving a little to the south, as that will afford some protection from sun and frost.

In the Orchard.—Trees should be placed at least 50 feet apart each way, and in rich bottom land I would plant 30 by 30 feet, and in time, say fourteen years, remove each alternate one, leaving them 60 by 60 feet. If the limbs interlock before that time the trees which would eventually be taken out could be lopped off or cut back so as to give the permanent tree more room.

Yield.—A good softshell tree in rich ground should in that length of time produce an aggregate of 900 pounds of walnuts, and at a much lower price than they have been selling for would yield $50 to the tree, and this would be more profitable than planting the space between wide rows with grain or fruit, as has been the custom. Besides, the trees taken out can be used to good advantage as fuel.

Varieties.—The softshell is by far the best. The trees are thrifty, good growers and bearers, the fruit is superior and commands a better price in the market than the hardshell. The leaves also drop later in the season, making it more convenient for gathering the nuts.

Pruning.—In forming the head it has been the custom to trim to the height of 6 or 7 feet, but 4 or 5

feet is better. Such high pruning makes the tree top-heavy and the prevailing winds cause them to lean, thus exposing one side of the trunk to the sun and causing sunburn. After pruning the head it is best to prune little, if any. It is the nature of the tree for the limbs to grow downward and fill any space of account that may have been made by trimming, while if they are allowed to grow in a natural manner the limbs will start near the ground, growing upward and keeping out of the way much better than when allowed to hang down. I have not been able to grow trees yet just as I would like in this respect on account of growing crops (mostly corn) between the trees, and I find it very difficult to save the lower limbs when young and tender, as a very little push or strain in plowing will injure them next to the trunk of the tree, and they should then be cut off to save the tree from greater injury than the loss of a limb.

But in shaping trees, crotches or forks should be avoided, for if a tree is thus about evenly divided the weight of the abundant foliage which it has in summer will be likely to cause it to split down with very little wind, and you will lose the use of the tree for several years, if not altogether. If a tree is badly broken start a new sprout near the ground, and in six years, with care, it will be a bearing tree.

Harvesting.—In gathering softshells the nuts should not be left long on the ground, as the sun and fog will cause the shell to open and the heat is likely to make the nut rancid. Neither should the nuts be left long in the gathering sacks, as they will sweat and turn black.

If the nuts are to be washed it should be done as soon as emptied from the picking sacks, as they will clean much easier then. Then spread in trays for drying. If the nuts are to be bleached they should be thoroughly dry before it is done. We use trays 3x6 feet, with sides 4 or 6 inches in depth, and a slat bottom, with half an inch space between the slats.

Scouring.—For the last few years the walnuts grown in the neighborhood of Rivera have been scoured by placing them in a wire cylinder, wetting them and revolving the cylinder for five to ten minutes, or longer, if necessary to make them clean. Then throw on water enough to rinse them off thoroughly before removing them from the washer. This will greatly improve them in appearance, removing all fiber and pieces of hull that might be sticking to them. It also gives them a much smoother appearance. After scouring place them on trays and dry.

FLORIST AND GARDENER.

Vegetable Growing in Southern California.

S. J. Murdock of Westminster, Orange county, is known to many readers of the RURAL from the several articles we have published from his pen on vegetable growing at the south. In a paper prepared by him for last week's Farmers' Institutes in that part of the State he discussed the general proposition of vegetable growing from three points of view: for home use, for local sale, for shipment. Of these three he considered the first the most important, because it interests most persons and because it is the most neglected.

Value of Vegetables in the Home.—It is universally acknowledged that freshly gathered vegetables are far superior to stale ones, and yet it is a big undertaking to overcome a universal custom of buying. And yet, how easily could a large proportion of families raise almost all the vegetables they use; and how much more they would use if they could get them fresh from their own gardens. It does not require a very large area to supply a family, and where water is handy two, three or even four crops can be grown on the same ground in the year. Let us demonstrate that it would not be hard to do this.

The Home Garden Calendar.—Let us start April 1st. Sow the plot to lettuce, and with proper cultivation it will mature in two months. Resow with turnip-radish, which is a good summer variety. These will be fit to use in three weeks, or by the first week of July, when the ground will be ready for late cucumbers, which will occupy the ground until the first frost, or till the nights become too cold for them to fruit. Now plant to carrots, beets or onion sets, and any of them will be ready for use in February or March. Here we have four crops within the twelve months, and no two of them occupying the ground at the same time. There are other combinations that would do as well.

In Favor of the Home Garden.—There are important items in favor of people growing their own vegetables. It saves many a nickel and dime and at the same time they get a better and a healthier article. I know it is handy to have vegetables brought to the door, but you may get yesterday's or the day before, or even last week's gathering, for the peddler is not likely to throw away anything so long as there is a chance to sell it.

Vegetables for Local Markets.—The business of growing vegetables has grown step by step, until at present it is a great industry, mostly in the hands of Chinamen. Yet in some places white men are getting a share of the trade, and if they would combine and exchange vegetables, as the Chinamen do, they would soon have the bulk of the business. The people of California know no seasons for the different vegetables, as they do at the East. They demand beets, lettuce, onions, radishes, turnips and cabbage the year round, and they want asparagus, peas, parsnips, salsify and cauliflowers nearly all the time. White men should combine and exchange different kinds, for one man can hardly succeed in having all varieties in the proper quantities, as different soils and locations produce different results. But the average Californian does not take kindly to the business. He considers it "puttering" work. Yet it is far ahead of wheat raising. It takes study, and lots of it, to keep abreast of the times, for we cannot raise the vegetables of ten or twenty years ago and make a success of the business. There has been as great improvement in vegetables as in other things. There is scarcely a region in southern California where an industrious, energetic man could not work up a trade along this line. He should not expect to make a fortune in a few years, but after the first few months he would have a steady income, increasing from time to time, as he learned the wants of his customers and catered to them.

Growing Vegetables for Shipment.—This industry is assuming vast proportions and in certain lines it is increasing year by year with rapid strides. For instance, the raising of celery on peat lands. Three years ago but very few acres were raised, while this season hundreds of acres are set out—the limit being in some instances the number of plants the grower had or could get.

The grower for shipment is a specialist: he grows but few kinds, and often one kind only, and it becomes necessary for him to study the particular kind he raises in all its forms, not only as to selection of variety, but to obtain the very best strain of that variety. He also has to study very closely the most economical methods of planting, cultivation, harvesting and marketing. Location in many instances determines what he shall raise. If his land is warm, dry and sheltered, he may raise string beans, early peppers, summer squash, or early tomatoes; on heavy, moist land, celery, cabbage, or onions. Another locality may be better suited for peas or asparagus, but you will not find one spot suited to all of these. We can, however, raise all the above mentioned vegetables at some time of the year in the same locality for home use or local sale, but the point to consider for shipment is to raise that vegetable which succeeds best at the right time for shipment. While we can raise tomatoes to perfection and in immense quantities down near the coast, where we have moist corn land, we cannot mature them early enough to get top prices, and it is that which counts on the right side of the ledger.

High-Priced Land Can be Profitably Used.—There is much land in California which is held too high to be used for ordinary farming, which might be made to pay a profit on the price asked if properly tilled to some vegetable adapted to the soil and locality, for the right seed in the right place has helped many out of difficulties, and will do it again if the man stands ready to do his part.

THE BOTANIST.

The Wild Gardens of the Sierra.

Our California Sierra is 500 miles long and 70 miles wide. The elevation is from 6000 to nearly 15,000 feet. No great mountain range is more easy of access or better adapted to outdoor life. John Muir calls it, not the Snowy Range, but the Range of Light, so marvelous are its sunbursts of morning, its clear noonday radiance from glacier-polished rocks and gleaming snows, its golden rivers of sunset, its alpine moonlights and starlights, its glories of blossoms of every hue, but chiefly white, blue, scarlet, golden, and all sorts of clear, vivid colors.

Wonderful are the peaceful mountain lakelets that find places on no maps—pellucid, transparent, hidden in sheltered hollows of glacial valley basins, at the tips of ancient moraines, or strung like beads on mountain streams, as in Lake hollow in Tuolumne canyon, where ten such lakes lie close together. These snow-fed pools begin to throw off the chains of winter in May, June or July, according to the altitude, and then their margins suddenly run riot with a most bewildering variety and multitude of plants. Thousands of attractive lakelets exist in the Sierras; in the Merced district alone, Muir notes 131 of not less than 500 yards in circuit; other thousands of hollows, once occupied by lakes, have now become green and blossoming meadows, while some are in the transition state—cold swamps where the Droseras grow, and one may look for Darlingtonia, or find in deeper channels the Nuphar polysepalum.

The margins of these countless lakelets are soft with mosses, pale green Hypnums, silky and lustrous Dicranums, dark Polytrichums and other Musci; green and purple Sphagnums, slender, flat-branched Selaginellas, and a multitude of as delicate plant-carpetings. In such wet places rise the tall stems and graceful white perianths of Spiranthes Romanzoffiana, the Sierra Ladies' Tresses, with white and greenish Habenarias. Sometimes one finds the white-racemed Hastingsia, Sagittaria variabilis, or the Damasonium Californicum of Torrey, with many species of Juncus in the water edges. In a few cases the ripe, salmon-colored capsules of the Bog Asphodel, Narthecium, gleam over the lesser water plants, and along the moister levels whole acres of tall Veratrums, or False Hellebore, uplift their broad leaves and heavy spikes of dull cream-colored and greenish flowers. Mingled with the rushes are bright green Quillworts, Isœtes and the cordate-leaved Caltha Leptosepala. Every inch of ground is occupied with overflowing plant life.

Bright-hued mountain grasses—Stipas, Festucas, Trisetums, Bromi, Calamagrostes and many more—give soft hues of brown, purple and gold, as they bloom and ripen on the sunny slopes or beside the blue lakelets. Beetles, ants, dragon-flies, Vanessas, Papilios and many other speces of butterflies in busy armies crawl and flutter through the warm summer land. Mountain quail and grouse are in the thickets of dwarf pines, oaks, poplars and willows. Robins, swallows, grosbeaks and goldfinches are nesting or singing in tree tops by rushing rivers and waterfalls, while the water ousel, swift bird wonder, flashes through the spray, and the saucy Douglas squirrel (Sciurus Douglasi) makes a lively part of every scene.

But I have hardly begun to describe the variety of plant life upon the shores of the lakelets in the alpine meadows and on the descending rock slopes. Around such lakes are vivid golden Ranunculi in many shades, Ranunculus Andersonii, R. oxynotus, R. alismæfolius and others; purple-beaked Dodecatheons, dwarf Mimuli, yellow or pink, with crimson-spotted or copper-red hoods; bee-haunted Limnanthes, white and pale yellow; rose-tinted Claytonias; tall, fragrant Trifoliums, red, white or purple-flowered, massed by dripping springs against still statelier Aralias, Ferulas and Heracleums, or grouped with white and yellow Hosackias by the edges of splintered granite rocks, while under foot are nodding Pearlworts, modest little Stellarias and Cerastiums and the water-loving Lobelia carnosula. Creeping Violas, white, yellow and blue, are blossoming by thousands in the warm half-shade; under the trees one may at rare times find the delicate Anemone multifida; the Aconitum Fischeri lifts its pale-blue flowers and pubescent stems through acres of orange-yellow and red-spotted lilies (L. pardalinum), and near it is the pale lilac of Clarkia rhomboidea. By some of these alpine lakes the dwarf willows are mingled with purple-flowering Kalmias, fringes of Cassiope and fragrant Vacciniums, Symphoricarpi and Loniceras, which by September add their glowing white and orange-red berries to the reds and rose-purples of the dwarf Mountain Ribes.

If a mountain torrent falls into the lake hollow you shall find many Saxifrages, white, creamy-brown or purple, hanging to the damp rocks. Primula suffrutescens will be there also, and where the spray dashes are white-blossoming Rubus leucodermis. On almost every sheltered, soil-covered shelf of rock millions of creamy yellow and purple-shaded Erythroniums begin to blossom as the snow melts and linger until the lake shores fairly waken. Hidden at the bases of the crags are multitudes of Asters and Aquilegias (A. truncata), and, if one climbs far enough, he can find the large-flowered blue and white A. cœrulea.

The blossoms of the hillsides, ravines and rocks are so many and so varied that every canyon and lake basin has its distinctive features and a complete list would be merely a catalogue. Rose or flesh-colored Dicentras hide among the grasses; Silenes, pink, white, scarlet or purple, cluster about rock points; Castilleias, yellow-red and fire-tipped, deepening to almost crimson; vivid scarlet Zauschnerias and crowded glowing masses of blue Lupines illuminate the landscape; white and rose-colored Phloxes; Pentstmons of pink, violet and blue; close-knit corymbs of rose-hued Spiræs; the almost prostrate, deuse-clustered scorpioid spikes of Spragueas; silky, glistening cups of Lewisia redivia—these, with an enormous number of wonderfully growing Compositæ, clothe the dry, granite dust and furrows of the dark rocks. Helianthi, Wyethias, Erigerons, Goldenrods, Heleniums and many others, great and small, by lake shores and streams and to the limits of alpine vegetation, mark the sway of the Compositæ in the Sierras. Often the color scheme is strongly blue and gold for miles, for the tall Forget-me-nots, the lovely Gentians, such as Gentiana Amarella, G. simplex and G. calycosa, the fine alpine Linums, Lupines, Larkspurs and other vividly blue flowers, quite hold their own with the rich Compositæ.

Especially brilliant, also, are some of the alpine Ericaceæ, such as Bryanthus Breweri, that dwarf

evergreen with thick, obtuse, heath-like leaves and saucer-shaped rose-purple blossoms gleaming upon high and rocky peaks of the Sierras. Another lovely heath is the white or rose-colored Cassiope, a suffrutescent evergreen, with finely imbricated foliage. These grow far above the oaks and the dwarf, trailing manzanitas, where hemlock spruces (Tsuga Pattonia) and mountain pines (Pinus albicaulis and P. monticola) are the outposts of the great Sierra forests. Still, one finds golden Compositæ, brighter and more luminous than ever, in great congregations close to the edges of the glaciers. Again, as far down by the lake hollows, the mosses and other forms of lesser plant-life take the place of the glowing hosts of the mid-Sierras. The Woodsias and larger ferns, disappear, but Pellæas, Allosori, Cheilanthes Cystopteris have grown in the shadows of granite crags and in crevices of the giant mountains all the way from the land of lilies, of wild Sierra roses and of thickets of white-flowered Prunus emarginata. On the gray pinnacles, among sky-blue Flaxes, silvery Astragli, with cream-white and purple flowers and mottled pods, rattle sharply in the winds. Alpine sages creep up from the Nevada desert plateau and make the eastern horizon gray. The blue and white Polemoniums, the hoary Lithospermum pilosum and other flowers of the highest peaks are found here in gardens of their own.—Charles H. Shinn, in Garden and Forest.

THE IRRIGATOR.

The Check System of Orchard Irrigation.

Sydmer Ross of Fullerton presented a careful essay on the check or basin system of irrigation for orchard use, at the Farmers' Institute held in his town. In the lower Santa Ana valley and Orange county generally the system of irrigation in vogue with nearly all progressive orchardists is that generally known as the check or block system. In a few instances the furrow or Riverside method is being used in the smaller orchards where the trees are young, but the general opinion is against this system, as the water is not apt to percolate freely in our soils. This method may succeed fairly well while the trees are young, but as they grow older and require more water, you of necessity have to give them less, as you are getting farther and farther away from the trunk every year and your furrows are fewer in number.

The Check System.—The check system, as carried out in the best handled orchards, entails lots of hard work, but after you are through with an irrigation you know that each and every tree has had its full supply of water, or you know the reason why any individual tree may not have had its proper quantity. In the system as followed on any well handled ranch in either the Fullerton or Placentia districts, the ground is deeply cultivated, say about five inches deep, so as to be able to throw up a high ridge; then with a four or six-horse "ridger" run once each way between every row, if it is a citrus or deciduous orchard, and twice should the trees be walnuts. After this is done run entirely around the outside of the piece to be irrigated, so as to have as perfect a ridge as possible on the outside. You then, with one horse attached to what is locally known as a "go-devil," proceed to close up one side of the checks. The practice generally followed is to close up the high side of your checks, if the land does not cut by running water, but if it cuts close up the lower side. After closing up the checks the ditches are plowed out and then what is known as a "V" is run twice through them. On lands inclined to cut, it is advisable that the length of the rows to be irrigated should be over 250 feet, but in heavy land this distance can be considerably increased, if necessary, without danger of cutting your ridges by too long a run of water.

If you have closed up your checks on the low side of your ridge, it is better to run the water to the ends of the ditch and water the last row first; but if you have closed up the high side, water the row nearest the gate or your main ditch, as the case may be, first, as in each instance you will have dry earth to work with, if necessary, when closing up the checks. The water is run down the row to the end tree, and as soon as the last check is filled it is closed up, and so on till all are filled and closed, when the water is turned down the next row.

To do good work it is usual to allow three men for every fifty inches of water, but in our own practice we have had much better results by dividing up our water and running from thirty-five to forty inches to a ditch and allowing two men for such streams. In doing this we get better work and find it much easier for the men.

Preparing for the Water.—I cannot too strongly urge upon all who follow this system to do all that they can to get ready for the water before it comes. A great many seem to think that if they ridge up their land, close up the checks and plow out their ditches, that is all that is neeessary. Such is not the case, as ditches that are liable to cut should be fixed in the weak places with brush or burlaps. Old gunny sacks cut open and spread out are excellent for this purpose. Occasionally these are placed where it is impossible to get a perfect ridge. These should be looked up and fixed with the shovel. The go-devil will not entirely close up a check; it generally requires a shovelful or two to complete them.

It is usual after the water is turned down one row to fix up the next one, but it is an excellent plan to have a few rows fixed up ahead, for there come times when breaks occur and there is no time to do the fixing up necessary, and when water once gets the start of you you are apt to have lots of trouble and hard work before you get it under control, besides doing a poor job.

After the Irrigation.—After the ground is dry enough to work, the ridges are split with a listing plow or a furrower attached to a cultivator. Then run over the ground with a harrow, setting the teeth to go well in, so as to pulverize the surface thoroughly. By using the harrow you are enabled to get onto the ground about one day earlier than with the cultivator, and it also prevents the ground from baking till such time as you can get around to it with the latter implement, besides doing a far better job than with the cultivator alone, especially when you have much land to go over, as some of it is certain to get too dry before you reach it and will not pulverize well.

All trees should be worked around by hand with either a fork or hoe as soon after irrigation as the ground becomes dry enough and before it becomes hard. For this purpose the Maynard draw fork is an admirable tool and far preferable to the hoe.

How Many Irrigations?—In a year when we have had copious late rains, three irrigations a year are sufficient under the system I have outlined for all citrus trees that have reached a bearing age. Walnuts should have two irrigations—the nuts being larger, better filled and heavier when so treated. They also will stand a high or low temperature much better when so irrigated, as it is well understood that the hot wave that passed over this section two years ago, those orchards which were well watered suffered much less than those not so treated; also that all orchards which suffered from the frost that prevailed last winter were almost invariably those that had not been properly watered.

Cultivation.—No matter what may be the system of irrigation it cannot turn out entirely satisfactory except it is followed by good cultivation, and the more thorough the cultivation the greater will be the success of any irrigation.

THE DAIRY.

Dairy Methods at Lynwood.

By C. H. Sessions, at Southern California Farmers' Institutes.

The Farm.—The Lynwood dairy and stock farm consists of 327 acres and is divided into fields of alfalfa and rye grass for hay, pasture and the balance being planted to corn, beets and other tilled crops.

After clearing the land of the tilled crops in the fall we prepare the ground and either sow oats or barley, which come up with the first rains, and sometimes we irrigate the ground before preparing so that the grain is up before the first rains come.

This grain is either pastured or allowed to mature and cut for hay or ensilage.

The water supply comes from six artesian wells, five of which in a good season will run over 100 miner's inches. There is a reservoir of about one acre which gives us a good supply to draw from in addition to the flowing wells.

The domestic supply comes from a well near the ranch house, which is piped to all the yards and buildings, so that the stock have pure water all the time.

The Buildings.—There are about fifteen buildings on the place, all of which are in use. They consist of residence for superintendent, lodging house for the men, two stables for horses, four stables with stanchions for 245 cows, stables for bulls, barns for storing hay and grain, five silos, creamery, besides houses for hogs; and in the yards are sheds under which the cows can get during rain or out of the sun.

The creamery is equipped with all the necessary machinery for handling a large amount of milk each day.

The ten-horse power engine runs the churn, butter worker, fodder and ensilage cutters, grain grinder, etc. The steam boiler has a capacity of fifteen-horse power which gives plenty of steam for pumping water, heating water in the sink, steaming cans, etc.

The Herd.—We milk nearly 200 cows all the time, the largest number in one day being 210. These are all fed while being milked. The cows are grades of all breeds, mostly Jersey, Guernsey, Durham and Holstein. We have fresh cows nearly every day, so that the number milked and the quantity and quality of the milk should be about the same all the year.

The Milk Record.—Every cow's milk is weighed once a week and a record kept, so that we can estimate the quantity given in a year and tell whether she is worth keeping or not. We keep a record of the number of cows milked each day, the quantity of milk produced and the kinds and quantities of feed given and in that way can note any changes that occur in the quantity of milk produced, and, if possible, the reason.

The Men and Their Duties.—There are employed on the place about eighteen persons and four drivers of retail wagons in the city. The field men attend to the general farming and have nothing to do with the milking or barn work. The milkers do the milking, feeding, cleaning of stables, etc. The men get out about 5 A. M.—the field men attending to their teams, while the milkers prepare the morning feed in the mangers and let the cows in, before they go to breakfast at 5:45. It is not necessary for me to follow the work of the field men as it is the same as seen on any farm.

The Milk Trade.—As soon as breakfast is over the milking is begun, which lasts until about 8:30. Each milker is expected to milk from 25 to 30 cows. The milk as soon as taken from the cows is strained into large tanks and weighed, then raised by an elevator and run into a tank which stands above the separator. Milk for the city trade is strained and immediately run over a cooler which reduces the temperature to 63° or 65°, or nearly to the temperature of the water. It is then drawn off into three gallon cans and set into a tank of running water until time to start for the city which is about 9:30 morning and evening. The wagon holds about 60 three-gallon cans in the bed and the load can be increased by putting on an upper deck.

The cream is obtained by running the milk through a separator with a capacity of 2000 pounds per hour. Part of the cream is then cooled down as low as possible and made ready for the city, the balance being set in cold water and ripened ready for the churn. In addition to milk of our own production we buy from farmers, paying each one for the butter fats in his milk. Samples are taken each day and tested every two weeks with the Babcock test. We also take samples of our own milk each day and test with the others.

The Days Routine.—As soon as milking is finished the cows are turned out into the yards and the work divided among the men, one or two working at each part, two going into the creamery to wash the cans and other utensils connected with the work, others cleaning stables and hauling manure to the fields, feeding bulls, calves and hogs.

The barn boss looks after the cows attending to any that might be sick or injured. He also goes to the pasture to look after the young stock and dry cows, bringing in any that have become fresh.

This work keeps the men busy until nearly dinner time. At mid-day the cows are fed in the yards with green corn, beets or pumpkins, in their season, or with hay, this being hauled in by the field men.

About 4 o'clock the milkers prepare the feed for the evening meal and do such other work as is necessary. Supper is called at 5:45 and milking begins soon after 6; it is after 9 when work is over.

The Feeding.—Two days in the week the milkers run the hay through the fodder cutter, cutting it into half inch lengths. The fodder cutter stands on the second floor of the barn and several tons of hay can be stored on the same floor. As soon as cut the hay falls to the floor below and is used as needed. When feeding grain the cut hay is spread on a cement floor and the grain scattered over it, the whole being wet with water from a hose and thoroughly mixed before being put in the mangers.

In supplying milk for the city trade we find it necessary to use the greatest care in selecting feeds, as any strong flavored grass or weed will cause complaints and loss of customers. We try to feed a balanced ration, one having the proper proportions of protein, carbohydrates and fat, which make a cow produce to her fullest capacity.

We have had good success in feeding alfalfa and Italian rye grass hay, green rye grass, green corn, corn ensilage, barley ensilage and green barley, both for soiling and pasture. These feeds give better success when two or more kinds are fed or in connection with grain.

Ensilage.—During last winter and spring we fed each cow twenty pounds corn ensilage per day in connection with hay and grain and were pleased with it; the flow of milk and quality keeping up. During the past summer we fed barley ensilage put up in April and as we changed from corn to barley ensilage the cows increased nearly 10 per cent in quantity and the quality remained the same.

When the barley ensilage was fed out and we returned to the corn ensilage, we found the new silo had begun to cool down and the fermentation developed so much acid as to give an unpleasant flavor to the milk and we were obliged to stop its use. We do not know whether the corn had not

reached the proper stage before cutting or whether the hot weather caused it to spoil faster than we could feed it.

This fall we will try to have the ears in the glazing stage when we cut which will produce a sweeter ensilage than when put in immature. We have used barley straw successfully in connection with alfalfa hay, grain and ensilage.

The Swine.—When skim milk is returned to the farmer from the creamery, or whey from the cheese factory, it should be his aim to feed it to hogs in such a way as to get the best returns. The returns will depend largely on the quality of the hogs to which it is fed.

In riding over the country we see too many of the long-nosed, narrow-backed style, commonly called "razorbacks." This style of a hog cannot be ready for the market until two or three years old and the feed one of them would take would keep two Berkshires rolling fat and they are ready for market any time after reaching 175 to 200 pounds.

Why is it farmers persist in breeding these "razorbacks" when the improved breeds make returns in one-third the time?

We keep thoroughbred Berkshires and Poland-Chinas and we know that they can easily be made to reach 200 pounds in six to eight months. For our own use we prefer the Berkshire as it has the largest per cent of lean meat which is demanded by the packers and can be prepared for market on less feed than the Poland-Chinas.

A Berkshire placed at the head of a herd of common or even "razor-back" sows would make a wonderful improvement on the first cross, while the second cross has much the appearance of thoroughbreds. The cost of a thoroughbred boar will be repaid the first year in the increased value of the young stock.

Our strains of Berkshires take on fat so easily that we find it hard to keep them thin enough for good breeding.

We feed our hogs skim and buttermilk with bran and at times shorts, barley and corn, but with very little of the latter. Barley and corn fed in connection with skim milk or bran and alfalfa in connection with whey will produce better results than when fed alone.

Rations for Dairy Cows.

In the course of an interesting paper on "Economical Feeding" at the southern California Farmers' Institutes last week, Mr. G. H. A. Goodwin of Los Angeles gave three rations which had been formulated for a dairyman at Downey, which may be suggestive to RURAL readers, not only at the south, but wherever the materials named are available. They are as follows:

RATION NO. 1.

	Dry Organic Matter	Digestible Nutrients. Protein	Carbo-hydrates	Fat	Cost
18 lbs. Alfalfa Hay	16.05	2.19	6.51	.30	.06
7 lbs. Corn and Cob Meal	5.83	.45	3.94	.203	.07
3 lbs Wheat Bran	2.62	.31	1.36	.075	.027
½-lb. Oilcake Meal	45	.12	.12	.08	.008
Ratio, 1:4.3	24 95	3.11	11.93	.658	.165

RATION NO. 2.

	Dry Organic Matter	Digestible Nutrients. Protein	Carbo-hydrates	Fat	Cost
12 lbs. Alfalfa Hay	10.70	1.46	4.34	.20	.04
8 lbs. Barley and Straw	6.40	.72	3.30	.048	.02
7 lbs. Corn and Cob Meal	5.83	.45	3.94	.203	.07
2 lbs. Wheat Bran	1.75	.21	.91	.05	.018
Ratio, 1:4.8	24.68	2.84	12.49	.501	.148

RATION NO. 3.

	Dry Organic Matter	Digestible Nutrients. Protein	Carbo-hydrates	Fat	Cost
12 lbs Alfalfa Hay	10.70	1.46	4.34	.20	.04
8 lbs. Barley Straw	6.40	.72	3.30	.048	.02
7 lbs. Corn Meal	5.73	.49	4.38	.29	.07
2 lbs. Wheat Bran	1.75	.21	.91	.05	.018
Ratio, 1:5	24.58	2.88	12.93	.588	.148

You will notice the cost of these rations has been figured. This is an important feature, for if it costs more to produce 100 pounds of milk than you get for it, it is only a question of time when you will go out of the dairy business in disgust. But, in figuring these costs, the prices taken were the market prices in Los Angeles the day it was done. On the farm these foods do not represent so much money, for the cost of getting them to market must be deducted. For instance, the hay must be baled and the bales hauled to market as must the straw and other constituents of the ration. Then again, there is a value to the excrements. The manure which is voided by the cattle is worth something, and, finally, the time consumed by the farmer in marketing his product is worth money—a consideration too often left out of his calculations.

THE SWINE YARD.

Hogs in Southern California.

A. E. Warner of Tustin, Orange county, whose excellent contributions to swine literature we have several times presented to readers of the RURAL, had a paper at the Fullerton Farmers' Institute on the hog in southern California which is full of suggestions to hog growers all over the State.

The Present Situation.—Just at present the swine industry is considerably depressed throughout the country and prices seem to be a notch lower in California than in Chicago and other Eastern markets. For the last year or more prices have ranged so low that many who have recently taken up the business are getting somewhat discouraged and are selling at a sacrifice. This is the very opportunity that a few level-headed men are looking for to get a good stock for little money, anticipating the return of better prices before very long. Those men of experience will tell you that this is a good time to go into the business, and is it not a good time for those who are still in the business to stay in? Many of these disheartened people, who are now ready to almost give away their stock to be rid of it, will *miss the feast.* Some of them have perhaps paid good prices in the past for some well-bred stock, but, losing their interest, they clean them all out and thus lose their grip. Another season, perhaps, finds them with a lot of low-priced corn and other unsalable provender, but nothing to feed it to, and pork advancing in price rapidly. They cannot go out in their neighborhood and buy back those choice brood sows that they sold last season for a song. They have to pay a price large enough to induce the neighbor to sell, and his eye is on the price he expects to get a few months hence when he is ready to sell.

I believe that this method of jumping in and out of the business is a detriment to the industry, as when a man closes out his whole herd he disposes of the choice breeding stock that should have remained as the foundation of the herd. As time passes, he finds his mistake; he is ready to buy anything that is offered him, and a pig is a pig at such times.

What Is a Good Hog?—There are many people in California who are raising hogs who are content with any style or form just so it be a hog. They have the idea that the scrub hog is the only kind that a poor man can afford to have. But he is the very man who can least afford to own a scrub for the plain reason that the scrub is the most expensive of all creatures. Many have a false idea of the purpose of the thoroughbred. They consider him as a sort of parlor ornament, only fit to subsist upon the most dainty food and be paraded about at the fairs to catch the money of those people who are sometimes called suckers. This is a mistake. One must get down to the utility of the thoroughbred and then he will appreciate him; he will save your corn, your barley and make your money. Of course, breeding of pure bred hogs is a fad with some few wealthy men at the East, and prices are being carried to a high figure. At a public sale at Springfield, Ill., the Poland-China sow, "Minnis Model," sold for $1310, the highest price ever paid for a sow. But such astounding reports do not change the utility or intrinsic value of the thoroughbred.

Feed and Breed.—There are a few men who profess to believe that the corn crib has more to do with the merits of the herd than other elements. Or, in other words, they put all the stress upon feed, allowing nothing for breeding. In a recent talk on hogs with an intelligent young man of my acquaintance, I mentioned *condition* as a prevalent point when judging animals by comparison. Of course, fine condition is necessary for the development of certain merits, but my friend exclaimed: "I believe it is *all* in condition. A pig is a pig, only feed him; feed is what tells." I did not have time to propose an amendment to his pig, but I would like to name the amendment now. Before the feed, I would say select the individual and then feed him. I suggest that he select the best individual he can find in the average herd of the country, then he may select from my herd of Poland-Chinas, blind fold. Take these two at weaning time, treat them exactly alike as to feed and other conditions and at the end of six months or any intervening period if he is not convinced that there is everything in breeding and individuality, then he will be the first honest man to find such results. I have never made many experiments in the gain of individual hogs, but what few trials I have made have been quite satisfactory to me at least. In one trial of a Poland-China pig, gaining ten pounds in seven days; and more recently of a young sow weighing 111 pounds at first weighing, and in forty days turned the scale at 181 pounds, making a gain at 1¾ pounds per day. This may not appear remarkable compared with experiments recorded in many of the hog journals; but considering the age (five months) at weighing, it will perhaps do for a California hog.

Those Bacon Hogs.—The latest fad in the hog ranks is the so-called "bacon hog"—Tamworth's Thin Rind Cheshires. These are simply weapons in the hands of English packers to strengthen the prejudice against American pork products. From a writer in the *American Swineherd*, I quote the following:

> Prof. Shaw advises to use Tamworth and Yorkshire boars on our "dumpy-shaped sows" as the short cut to the bacon hogs or to ruin. He forgets that as soon as these coarse, slab-sided beasts come into the land of plenty they fill out into better form. The bacon-hog craze means a backward movement or revolution of the hog business. The Poland-China and Berkshire, which have made their way into every hog-growing country because they excel in ability to convert grass and grain into wholesome, fine meat, are thus invited by an imported professor of agriculture to retire in favor of the ungainly foreign competitors, which they have knocked out in every show ring and from the stock yards even of America.

There is an idea prevailing with many people that cross-bred hogs are better than the thoroughbred, though they do not give us any sound reason for the idea. While it may not be entirely erroneous, I fail to perceive even one redeeming feature in such proceeding. There is certainly no logic in such a departure; for after scores of brainy men have spent the best years of their lives in establishing all the desirable qualities, and have become experts in producing individuals that register from 95 to 98 points by our score cards, can you or I reasonably expect by one cross to produce a superior porker? Some one may say we are not many of us breeding for the show ring. Very true, but we are all aiming at perfection, or should be at least, and we must not forget that the ultimate end of every hog is the pork barrel.

THE POULTRY YARD.

Ticks in Chicken Houses.

TO THE EDITOR:—I see in last week's issue of the PRESS how Mr. Kooser proposes to get rid of the wood tick in poultry houses. Now, his way may do where one has only one house to look after, but where you have a dozen or more it would be slow work, and if he succeeded in getting a few old ones every morning, how about the eggs that are deposited in the cracks of the buildings, where no lime or oil can reach them?

I will give my remedy for those that wish to try. I have made the tick quite a study. In the first place, one ought to use nothing but building paper or redwood lumber to build hen houses out of, as I find the ticks are not so much at home in that. They will live in pine houses without having chickens to feed upon, and do well. When I first discovered them they were only in one house. I had that moved into a large field, where there was no live stock, and after two years I still found live ticks. I used coal oil, but they would come out of a coal oil bath in a few hours more vigorous than ever. I used everything that I could hear of, but the result was the same. I would go out at night with a light and kill as many as I could see—but they multiply so fast.

Now I have all my poultry houses built with swinging roosts. The roosts are attached to small irons let down from the rafters, on which I have never seen a tick travel. But the roosts must not touch the house anywhere. Or have them built on four posts, the perches laid across the top, the bottom of the posts put into coal oil cans, in which you can put a few inches of coal tar, or, still better, put some of Leake's Lice Exterminator, both of which are healthy and make a river which the ticks can not cross. In fact, you can keep your poultry almost free of any kind of insects. POULTRY RAISER.

Madison, Yolo Co.

Orange Outlook in the San Joaquin.

The Sanger *Herald* reports that several large dealers in fruit have visited Kings river lately and inspected the orange groves, with a view of figuring on the probable output this fall and submitting bids for the entire crop on the trees. Fulton G. Berry's grove is the largest, and a careful inspection of the trees shows that the fruit was thinned out to an alarming extent by the heavy frosts last spring, so that the crop now maturing will fall short of last year's output by several carloads. A similar condition of affairs exist elsewhere, so that a big shortage is reported all around. Last year the orange growers on Kings river received 75 cents (net) per box for their oranges, and it is expected that this price will be raised somewhat the present season. About 20 carloads of oranges were shipped from Sanger last season, but it is doubtful whether the shipments will aggregate as much next fall. Mediterranean Sweets suffered more than other varieties from late frosts, and they will be exceedingly scarce in the coming crop.

Wheat Outlook Abroad.

Beerbohm of London says: Continued small shipments to Europe, and a consequent further reduction in the quantity afloat, have helped to counterbalance the usually depressing effects of first supplies of new wheat, and in a general way it may be said that the trade is beginning to feel the effects of the paucity of foreign wheat in view, as manifested in the quantity afloat for the United Kingdom, which is now little over 12,000,000 bushels, against 24,800,000 bushels last year, and which means that supplies of foreign wheat must be moderate for some time to come, a fact which English farmers with their new wheat in excellent condition will not be slow to take note of. There are, indeed, several sufficient reasons why the immediate future of wheat should be regarded with less discouragement than was the case a month ago. First and foremost, it is becoming evident from the various reports received that the American crop is not likely to be as large as was expected, and, indeed, will fall rather considerably below last year's total, a poor spring wheat crop much more than counterbalancing an improved winter wheat crop. In the second place, it is now tolerably clear that France will not have the abundant crop once looked for, enough being known of the threshing results in the south, southwest, center and east of France to warrant the statement that only an ordinary average crop has been obtained in these districts. In the north and northwest, where the harvest is now drawing to a close, the results are relatively better, but the best informed authorities affirm that the total crop will not exceed, and will probably not equal, that of last year, so that, as we pointed out in our last review, as the stocks of old wheat have been practically exhausted in the absence of any important supply of foreign wheat in the past season, France will in all probability import considerably more foreign wheat in 1896–7 than she has in 1895–6. The Paris *Bulletin des Halles*, we may add, deduces from the recent official crop report that the total crop this year will be about 118,750,000 hectolitres, against 119,500,000 hectolitres last year. So far, however, purchases of foreign wheat in France are difficult, owing to its relatively high price; Danubian wheat, for instance, sells at Dunkirk or Calais at equal to 33s 6d per 480 pounds, duty paid, while at Lille new home-grown wheat is offered at 31s to 32s per 480 pounds.

Another reason why the trade should be less despondent is to be found in the latest official Russian crop report, and according to which neither the Ghirka wheat nor the Azima wheat crop is likely to be an average, although the former is regarded as promising better than the latter. Wheat buyers generally have apparently become so extremely cautious that they need not be reminded of the fact that early crop estimates, especially in America and Russia, are apt to be misleading, but, under the present extraordinary circumstances in regard to the statistical position, any marked deterioration in the general crop outlook might find them napping.

The X Rays on Young Pigs.

Dr. Graetz of Munich has been the first to use the X rays for the purpose of studying the skeleton of pigs, says *Wallace's Farmer*. He observed that the bone of the pig, at one day old, contains very little bony matter, and that the skeleton is built up after birth by the addition of mineral salts, notably phosphate of lime. M. Garndeau, in a recent article in the *Journal of Practical Agriculture* of France, points out the fact that the supply of nitrogenous and phosphatic ingredients essential to the formation of bone is obtained from the milk, and after the pig is weaned is obtained from the grains and grasses with which it is fed. When no grass is furnished and the animal is fed grains deficient in bone material, the result is the oft-repeated complaint that the pig is too fine in the bone. There is probably nothing new in all this, but the X rays furnished an illustration of the truth that we have often taught, and which is recognized by nearly all breeders of improved swine. The dam during pregnancy must be fed with the right kind of food, she being, at the time, simply a pig machine. She can take from her flesh to supply the wants of the unborn, but she cannot take from her bones. During the nursing period she can supply it through her milk, but if she is not properly fed the milk itself must be deficient, and after weaning time there must be bone material in the food if it appear in the skeleton of the pig. In this lies the value of oats as a pig ration, and in this also lies the vice of the exclusive corn ration. One who feeds the dams properly during pregnancy, and the pigs after birth and up to 100 pounds, will never have any trouble with pigs being fine in bone or breaking down on the way to market.

A Strong Endorsement.

From the Democrat, Atlanta, Texas.

LINDEN, TEXAS, March 21, 1896.

This is to certify that my wife and son suffered from dropsy—my wife afflicted for six years and my son for two years. During that time I resorted to every remedy known to the medical profession in this section of the country. In my great anxiety and desire to alleviate their suffering I consulted two eminent doctors in New York, and after several months treatment I could discover no visible improvement, not saying anything for their recovery.

While in Jefferson, Texas, some two years since I happened to mention the condition of my wife and son to a leading physician and druggist. He advised me to try Dr. Williams' Pink Pills for Pale People. After considerable persuasion I reluctantly consented to do so. At first I bought two packages and by the time one package had been taken I saw a marked change for the better. I continued the use of them until twenty packages or boxes had been taken when to my surprise and great joy my wife and son had fully recovered and are to-day in fine health.

Too much cannot be said in commendation of Dr. Williams' Pink Pills. They are certainly a great boon to suffering humanity, and I take great pleasure in offering this testimonial. In connection with this I will state that two of our leading physicians treated my wife and son.

(Signed.) JOHN MILLER.

STATE OF TEXAS, } ss.
COUNTY OF CASS. }

John Miller, the subscriber to the foregoing, being duly sworn on his oath, says the statement he makes concerning Dr. Williams' Pink Pills is just and true.

C. A. EAST, *Justice of the Peace.*

Dr. Williams' Pink Pills for Pale People are considered an unfailing specific for such diseases as locomotor ataxia, partial paralysis, St. Vitus' dance, sciatica, neuralgia, rheumatism, nervous headache, the after effects of la grippe, palpitation of the heart, pale and sallow complexions, that tired feeling resulting from nervous prostration; all diseases resulting from vitiated humors in the blood, such as scrofula, chronic erysipelas, etc. They are also a specific for troubles peculiar to females, sush as suppressions, irregularities, and all forms of weakness. In men they effect a radical cure in all cases arising from mental worry, overwork, or excesses of whatever nature. Dr. Williams' Pink Pills are sold by all dealers, or will be sent postpaid on receipt of price, 50 cents a box or six boxes for $2.50 (they are never sold in bulk or by the 100), by addressing Dr. Williams' Medicine Co. Schenectady, N. Y.

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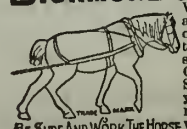

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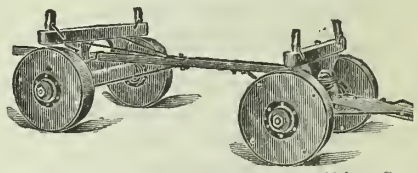

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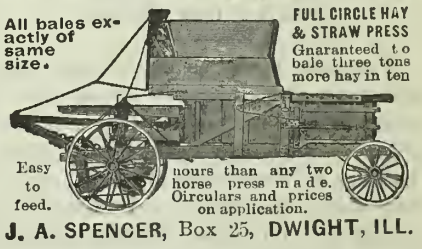

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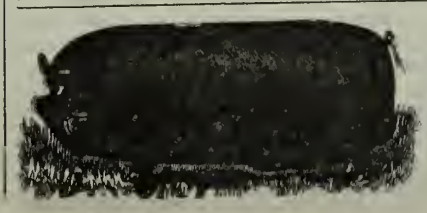

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THE HOME CIRCLE.

The King's Ride.

Above the city of Berlin shines soft the summer day,
And near the royal palace shout the school boys at their play,
When suddenly the palace gates unclasp their portals wide,
And forth into the sunshine see a single horseman ride.

A bent old man in plain attire; on him no courtiers wait;
No armed guard attends the steps of Frederick the Great.
But boys have spied him, and with shouts the summer breezes ring,
The merry urchins haste to greet their well-beloved king.

The frowning look, the angry tone, are feigned, full well they know;
They do not fear his stick—that hand ne'er struck a coward blow.
"Be off to school, you boys!" he cries. "Ho! ho!" the laughers say,
"A pretty king, you do not know this is a holiday!"

And so, upon a summer day, those children at his side,
The symbol of his nation's love, did royal Frederick ride.
O, kings, your thrones are tottering now; dark frowns the brow of fate.
When did you ride as rode that day King Frederick the Great?

—Lucy H. Hooper.

When Katie Tuned the Old Guitar.

The sweetest strain that ever
My raptured ears have heard—
I know that memory never
Can lose a single word—
Was on a balmy evening
That crowned a summer day
When Katie tuned the old guitar
And sang my heart away.

The happy starlight beaming
Upon her lily throat
Set wistful fancy dreaming
With every haunting note.
It was no idle ballad,
No senseless modern lay;
With "Bonnie Annie Laurie," lo,
She sang my heart away.

And when the song was over
And Katie breathed a sigh,
She, too, could boast a lover
Who would lay him down and die.
'Twas then I told my secret,
And still I bless the day
When Katie tuned the old guitar
And sang my heart away.

—S. M. Peck.

Saving Our Claim.

I suppose I was, as mother said, too much of a doll to settle on a prairie claim with a strong, sturdy man like John. I was only twenty, and knew nothing of life outside of school and a rich home. But John and I were determined, and I married him and bravely took my place beside him in the creaky white covered wagon when he started westward.

It was delightful at first as we journeyed toward the sunset. The nightly campings out, the passing panorama of hill, dale, stream and plain—all were like an adventure in my eyes. So we drove on across the Mississippi, over long stretches of country, and at last were riding through the rich-carthed prairies of Kansas. Far toward the western edge of the State our drive took us, and I could just catch above the approaching horizon a glimpse of the blue, cloud-like mass of Pike's Peak, when we halted on the homestead that was to be our future home.

John had "taken it up" the spring before, but had done little work on it, and I confess that the place was so bitterly barren in my eyes, used to the improved homes of the Eastern and Middle States.

But I did not show my feelings, and when John asked, "Do you like it, sweetheart?" I reassured him so heartily that he did not even repeat the question.

Still, it was lonesome. No neighbor was nearer than three miles, and when the little work of the cabin had been performed I would go out to the field where John was turning over long ribbons of turf and watch him, just because I was so hungry for company.

And then when summer came and he used to drive to the nearest town, Coronado, to find work, the days were like months. I could not go with him, and I could go nowhere else, because I had no way. Our only other horse besides the team driven by John was a heavy work animal, utterly unsafe for a woman to handle.

When John would come home he would pet me and promise that "some day" we would be fixed so that I could go wherever I wished myself—but he never mentioned how, and was off before daylight to the town again.

It was the height of summer and the warm prairie winds racing as if from an oven mouth northward shook and rattled the slenderly constructed cabin in a manner that brought a frequent fear to my heart that the whole house would go rolling over and over across the plain like the tumble weeds that scurried along before the door in a never ending train. I had just finished my lonesome dinner when an unusual rattle told me that some one was at the threshold.

Opening the door, a lank, shock-headed youth, the son of a neighbor, stood before me, holding out a couple of papers. He passed our cabin in going to the prairie postoffice and usually carried us our mail.

"You are early to-day, Clay," said I, glad to have some one to talk to.

"Ya-as'm, but I went clean down ter th' city, though."

"Indeed! That must have been a long ride for you," as I looked quickly among the local news of the paper, which had come from my old home, picking out here and there a familiar name.

"I seen yer husbun', too, Missis; he's havin' a right fine time."

The paper was forgotten and eagerly I questioned him as to his meaning.

"Why, nothin', only he was ridin' with th' handsomest lady I ever saw—that is, in town," a rude gallantry causing him to make an exception on account of my presence. "I don't know who 'twas, but they was in a phaeton, an' druv up to a beautiful yeller house."

It was the widow St. Clair. I had often envied her her magnificent (for that country) residence and her luxurious surroundings.

"But John's team?" I faltered, a lump rising in my throat in spite of my determination to be cool.

"Oh, that was down ter the hotel. He was jest a ridin' 'round town, I guess—an' they was goin' like lightnin', too, I tell yer."

There was no telling when he would have stopped his heartbreaking narrative had not the brush of a prairie wolf shown itself on a swell a few hundred yards off and caused the youth to mount his pony in haste and start in pursuit.

I shut the door behind him and threw myself, sobbing, upon the floor. It was too hard. All the loneliness, all the homesickness, all the longing of the days that had so slowly passed, welled up in my heart and I could not control myself. The thought of John riding about the city with the wealthiest lady in that section of the State, while I, tired out and lonely, was fairly wearing out my life in our humble home looking after our meager surroundings because I loved him so! I had practiced the entire creed of love—sacrifice. I had given up all of joy and companionship for him.

And how had he repaid it? I remembered now that he had been somewhat reticent regarding his employment in the city. I did not know what he was doing. To be sure, nothing was neglected at home—but his wife—for there was little of the claim cultivated or even plowed.

Bitter thoughts came to me and I half uttered, half sobbed them to the window-shaken walls of the cabin. I vowed that I would go back to mother, and soothing memories of the old home set deep in orchards of apple and cherry, with its wide porches and cool parlors, thronged my brain. The roaring of the south wind changed to the humming of honey bees about the morning glories and the clinking of a loose board was the rattle of a mowing machine in the neighboring clover field. Sweet breaths, soft cooings and tender pictures that were once common enough, but now seemed glimpses of paradise, bewildered me and soon I was far into dreamland.

I was aroused by voices outside the house. Stealing to the window, I saw two rough, cowboy-like plainsmen watering their saddle ponies at the trough. They were typical Westerners. Wide sombreros sheltered their long locks and huge spurs glistened at their heels, while their costumes were fringed and braided after true frontier style.

"Mighty soft snap fer somebody," said one of the men, snipping off the top of a swaying sunflower with the lash of a long, sinuous "snake whip" he carried in his hand. "He'd ought ter hev thought ferther'n that."

"Probably clean forgot the date," was the comrade's reply.

"Mighty likely place he's got here."

"Ya-a-s; not ter be 'proved upon."

"Lived on it long enough, ain't he?"

"Yes, squatted long enough, but ain't plowed enough sod."

"Is that the way of it?" with a vigorous cut of the whip. "The time fer breakin' is up to-day."

"Air yeh sure?"

"Know it. Was around by McClarens' yesterday an' he entered th' same time this feller did, an' his time was out ter-day. He was workin' his horses ter death gittin' enough sod broke by ter-night."

Who were they talking of? A suspicion that they might mean our place came over me, and it was made a certainty by the next word:

"If he don't get her done to-night, we'll better work bright an' early in th' mornin'. You go to the land office an' enter the claim an' I'll start the plow."

"How much breakin' is lacking?"

"Oh, not much; about half an acre, I guess. That strip yender behind th' house'll make it. The margin's small, but it'll do ter throw him out."

The men tightened their saddle girths; and remarking that a big storm was coming up, mounted and went cantering easily away through the prairie grass and soon were lost to view.

How could John have been so careless? After all our work and homesickness and trouble, we were to lose our home.

Then in a rushing wave came over me the thoughts which have filled my mind, as I was for a moment undecided how to act. But then it was John! Perhaps I was mistaken in my surmises. I loved him in spite of all and we must save our claim.

There was but one way to do it and that was to plow the half acre. But how? I had never plowed a foot in my life, nor did I have any means for doing it even if I knew how. Then I thought of old Major in the shed. He was big and strong. Would he pull the plow?

Drawing on a pair of John's boots, and tying my hat upon my head, I started on my self-appointed task. It was no easy one. The harness was so heavy, and Major would step in the wrong direction. But at last it was done, and I had attached the sturdy animal to the lightest plow on the place.

As we started for the strip I was nearly taken off my feet, and I saw that dark masses of cloud were arising in the west, while feathery advance couriers scurried ahead of them, flecking the blue skies.

I lifted the plow into place and spoke to Major. Would he mind me and pull the heavy load? It needed two horses, but perhaps the one could stand it a little while. Major shook his head and did not start. Trembling with nervousness, I went to his head and almost pleaded with him to help me.

Again I shook the lines, and with an effort the noble animal gave his weight against the collar and moved on—a narrow, chocolate-colored ribbon of sod being thrown out behind.

The strip was a long one—half a mile to the other side of the section—and when I had reached the turn I was confident of my success.

But upon looking backward the appearance of the heavens startled me. The massive cloud was drawing nearer, and was intense in its blackness. The wind had died out for a moment, but came again in fitful gusts.

"We must hurry, Major," I called to the horse, and we started toward the house.

It was a pace for shelter. The clouds were coming now so near that I could almost hear the rumble I knew accompanied them. The foam-like advance flyers had reached the opposite horizon. The sun was hidden, and darkness was upon us. Desperately I struggled on, alternately praying that the storm would prove merciful, and that John would come.

I reached the end of the furrow, and the storm was not yet upon me. Two more rounds would make the half-acre—and blindly anxious to save our home I determined to make them, rain or no rain.

Major was not eager to obey me, but I scolded him sharply, and down the track we went again. The clouds seemed to be resting, and I hurried on. Back to the home and then down the stretch for the third time. Oh, if I could only complete it—and if John would only come.

We had almost gained the middle of the last furrow when the storm broke. There was a whirl of dust and rain and hail, while a terrific crash of thunder shook the very prairie.

Major, frightened worse than I, gave a quick spring, and, snapping the single-tree, was off to the stable. I tried to follow him, but I could see nothing, and sank down upon the freshly-turned earth, confident that my last hour was at hand.

Scarcely had I done so when a dark form appeared at my side, two strong arms lifted me from the ground and carried me against the wind at a rapid pace, while big bearded lips pressed against my cheeks told me that it was John who had rescued me from my perilous situation.

The cabin creaked and trembled in the storm, but I did not hear it. I sat in my husband's arms and sobbed out the story of my attempted task.

"But, darling, the men must have been mistaken," said John, interrupting me.

"They—they said they had looked on the records," still sobbing.

"They must be right," admitted John, musingly; "I remember now that the entry was made just six months ago. I meant to have seen to it—but didn't, and it remained to you, little wife, to save the claim. But to think that I was away off in Coronado—"

"—At Widow St. Clair's," I put in before I thought, for I had not intended to mention the news I had heard that day.

"Why, who told you—" began John, in a hurt voice, while I hid my face on his shoulder.

Did he suspect anything? I do not know to this day, but he suddenly wrapped me in his overcoat, which was near, and opening the door bore me straight through the heavily pouring rain to the barn. He set me down, and there before me was the handsomest phaeton I had ever seen, while a gentle-looking pony was a new addition to the stable list of inmates.

"For you, Tite," whispered John, reverting to an old pet name of our courtship days.

"How could you?" I asked wonderingly.

"It was this way, pet; the widow wanted some earth hauled upon her yard and would pay me in this rig, but not in money. I have been working every spare day to complete the job. To-day I finished it."

It is not necessary to relate what followed, but I am willing to admit that I confessed every hard feeling that had occupied my mind that day and received a full and free absolution from my husband confessor.

There was no more storm when our interview was over. The last cloud had drifted away to the east, and the prairie was a mass of sparkling pearls gleaming in the sunlight.

John laughed a little at the plowing I had done, but it passed muster at the formal "proving up" of our homestead, and I was content.

The prairies are more thickly settled

now, and in an hour's drive in my phaeton I can visit a dozen rich farms, but none is so prosperous as our own; nor is any family happier, for since the day when I did my first and last plowing not a bitter thought has entered either my own or John's breast.

Condensed Wisdom.

You may follow luck to ruin, but not to success.—Garfield.

Kind words do not wear out the tongue.—Danish Proverb.

It is the talent of human nature to run from one extreme to another.—Swift.

I find the great thing in this world is, not so much where we stand, as in what direction we are moving.—O. W. Holmes.

Success in life is not so much a matter of talent or opportunity as of concentration and perseverance.—C. W. Wendte.

Kind words prevent a good deal of that perverseness which rough and imperious usage often produces in generous minds.—Locke.

It is not the people who are helping the world who are pessimistic over the condition of things; it is the idle onlookers.—Rev. M. J. Savage.

He who thinks he can find within himself the means of doing without others is much mistaken, but he who thinks that others cannot do without him is still more mistaken.—Rochefoucauld.

This makes the sacredness and awfulness of life when we come to know it, that we are never so near our highest as when we are most sensible of the danger of our lowest; and the danger of the lowest is never so real to us as when the splendor of the highest stands wide open.—Phillips Brooks.

You may not be able to leave your children wealth or the inheritance of a great name or eminent social advantages, but you can leave them the results of fidelity and precious memories of devotion to the holy task of trying to make them know what God says to us in the Old and New Testaments, and what He wants us to believe and to do and to be.—Dr. F. A. Noble.

Women as Wage Earners.

In a recent competition in the New York *World* for the best answer to the question, "Does Wage Earning Unfit a Woman for Domestic Life?" Mayor Strong awarded the prize to the writer of the following letter: "The best and most contented wife is one who has marched in line with wage earners through every stage of mental and physical tiredness; who, from the practical standpoint of experience in earning a dollar, has learned the value of it; whose contact with the outside world has broadened her sympathy and general knowledge; who has been denied care and consideration, and who, though earning enough of a salary perhaps, to partially satisfy her tastes for the beautiful in life, in art or study, is allowed no time for anything but an insatiable longing for the same. To such a woman the care and protection of a husband, the shelter of a home, is a heaven. Any womanly woman from out of the ranks of the business world will prove by a lifetime of devotion and helpfulness, her appreciation of and her fitness for a domestic life if her husband be half worth."

The Power of a Voice.

A low, sympathetic voice will sometimes win its way with men and women who seem hardened against their fellows. Such a voice was possessed by Miss Dorothea Dix, whose life was devoted to the succor of the prisoner and the insane.

A story is told of the effect of her voice and of her power of persuasion upon a desperate prisoner. She was traveling in a stage coach through Michigan, when it was held up by a robber who demanded her purse. Without an apparent tremor or fear Miss Dix gently told him she had but little money, and what she had was needed for her work in visiting prisons and poorhouses.

Almost as the first word dropped upon his ear the man stepped back with a gesture of dismay and his face paled perceptibly. Then he uttered an exclamation in which the words "that voice" could be distinguished.

He made no further demand, but with some feeling said that the memory of an earnest appeal, uttered by those very lips in a Pennsylvania penitentiary years before, when he himself had been present, had not passed from his mind. He could not rob that speaker. Yet the gentle woman would not let him depart before she had shared her money with him, so fearful was she lest poverty should be to him a temptation to further violence.

Popular Science.

"Remember that clear water is not necessarily pure water any more than cold air is always pure air."

The eyes of fish and birds are round, with no angles at the corners. The eyes of birds that fly by night are generally about double the size of day birds.

Human life is in danger at an elevation of twenty-five thousand feet, and at a considerable lower altitude bodily exertion becomes almost impossible. Birds, on the other hand, rise to an elevation of thirty-five thousand or forty thousand feet, and at such heights sustain great muscular exertions for an indefinite period.

Science says that many insects can fly faster than birds. The common house fly can ordinarily fly twenty-five feet a second. But when it is alarmed it has been found that it can increase its rate of speed to over 160 feet per second. If it could continue such rapid flight for a mile in a straight line it would cover that distance in exactly thirty-three seconds. It is not an uncommon thing when traveling by rail in the summer time to see a bee or wasp keeping up with the train, and trying to get in at one of the windows. A swallow is considered one of the swiftest of flying birds, and it was thought until recently that no insect could escape it. A naturalist tells of an exciting chase he saw between a swallow and a dragon fly, which is among the swiftest of insects. The insect flew with incredible speed, and wheeled and dodged with such ease that the swallow, despite its utmost efforts, completely failed to overtake and capture it.

Curious Facts.

In the private schools of China a teacher is paid about one cent a day for each pupil.

There is a lime tree a Nuestadt, Wurtemberg, which is said to be the largest in Europe. It is over 1000 years old.

The university of Calcutta is said to be the largest educational corporation in the world. Every year it examines over 10,000 students.

A museum in Berlin has secured possession of Luther's Bible which he used in his study. Its margins are covered with notes in the reformer's handwriting. It was printed in Basle in 1509, and is in an excellent state of preservation.

Shingles that were laid in 1828 are being taken from the Canterbury (N. H.) Congregational church. They were split and shaved by hand, and are in a perfect state of preservation, but worn very thin where they laid out to the weather.

The largest maritime concern in the world, the North German Lloyd, evidently does not believe that the trade between America and Europe is declining. This company has ordered two fast liners of thirteen thousand tons burden each, and four of 10,500 tons each, for its New York line. At present the company employs eighty steamers with 302,166 tonnage and eighty barges with a tonnage of 15,900.

DOMESTIC ECONOMY.

Domestic Hints.

Good Tea Cakes.—Three pints of flour, three teacupfuls of sugar, one and one-half cups of sour milk, one and one-half cups of lard or butter, one and one-half teaspoonfuls of soda. Roll out very thin, and bake quickly.

Sand Tarts.—Beat one pound of granulated sugar and half a pound of butter together, add the yolks of three eggs beaten to a cream, then the whites well beaten; mix all well together and add flour enough to make a stiff paste. Roll out on a baking board, cut with a round cutter and bake in a moderate oven until a light brown.

Potato Pasty.—Pare, boil and mash very fine a few potatoes. Season with salt, pepper and add a large lump of butter. Make a good pie paste and roll out the size and shape of a medium-sized pie plate. On one-half of this place the potato, fold over the other half, pinch the edges closely together and bake in a moderate oven.

Onions in Cream.—Wash, peel and cut rather fine four large onions, put into a stew pan with enough cold water to cover them; add a little salt and boil briskly for about twenty minutes or until onions are tender. Drain off the water, add cream enough to cover the onions, let the whole come to a boil, add two tablespoonfuls butter, melt, mix and serve. Season to taste.

Roast Beef Hash.—Melt four tablespoonfuls of butter in a skillet. Mix one pound of finely chopped, cold roast beef, and the same quantity in bulk of finely chopped cold boiled potatoes, moistened with one-half cup of cream. Cook in the skillet until beef and potatoes are well warmed; season to taste, sprinkle with a tablespoonful of finely chopped parsley. Some chopped onion can be added, but must be first cooked with the butter.

Blackberry Sponge.—Cover half a box of gelatine with half a cup of cold water; soak for half an hour; then pour one pint of boiling water over it, add one-half cup of granulated sugar, and stir until dissolved; then add half pint of blackberry juice and strain into a tin basin; put this basin in a pan of cracked ice (or snow, if winter) to stand until cold and thick, stirring occasionally. Beat to a stiff froth the whites of four eggs, add all together and beat until smooth, turn into a pudding mould to harden.

Whipped Cream.—Place over ice until thoroughly chilled, and whip with churn until it froths. While whipping place froth on a sieve, and return to bowl to be rewhipped all that passes through. When cream is difficult to whip, add to it and beat with it the white of an egg. Sweetened and flavored, this is a choice dessert alone, but it may be served in various ways. Jelly glasses one-third full of jelly and filled up with cream make a very wholesome and delicious dessert.

Strawberry Shortcake.—Make a good soda biscuit dough with buttermilk, sour milk and cream, or sour milk alone, using soda with the sour milk, or cream or buttermilk, and baking powder, or soda and cream of tartar if sweet milk is used. Roll about one inch thick and bake in a quick oven. When nicely browned slip in on a large platter, and with a very slim, sharp knife divide the cake horizontally into three layers; butter the bottom piece liberally, and put on a thick layer of berries; sprinkle on plenty of sugar and moisten well with sweet cream; then butter the middle layer of the under side and place over the berries; butter the top of this; cover with berries, sugar and cream as before, and put on the buttered top crust. Unless this is very tender moisten the top with cream or cover it with sweetened whipped cream and serve with whipped cream.

Chocolate Cake.—Take two cups of sugar, three-quarters of a cup of butter, one cup of milk, three and a half cups of flour, the yolks of five eggs and the whites of two, half teaspoonful of carbonate of soda, and one teaspoonful of cream of tartar. Mix and bake in exactly the same way as lemon jelly cake, only filling and icing with chocolate icing. Or, if preferred, it may be baked in one tin, and the icing poured over the top only.

Hints to Housekeepers.

If hot meats and soups are covered before they are perfectly cool they will surely spoil; the hot air must have a place to escape, or the meat will be affected.

Put a piece of horseradish root into each jar of pickles. The vinegar will retain its strength longer, and the pickles will be less likely to become soft and mould.

In cleaning straw matting it is best to wipe it off with a cloth dampened in warm salt water. Indian meal is good for cleaning matting. Sprinkle the meal over the floor and then have it thoroughly swept out.

One of the most convenient things to be found in a kitchen is a set of tin measures with a small lip. They should measure from a gallon down to half a gill. They fit one inside the other, and so require very little space.

Bread that has been cut in slices and become stale may be freshened by laying the slices together and folding a damp napkin around them. Put the napkin in a paper bag and place the bag in a hot oven for fifteen minutes.

When swansdown becomes soiled it can be washed in the following way: Baste the strips on a piece of muslin and wash in warm water with white castile soap; then rinse and hang in the wind to dry. Rip the pieces from the muslin and rub them carefully between the fingers to soften the skin.

The most wholesome way of cooking a potato is to bake it. A small piece of the skin should be cut from the ends before putting the potatoes in to bake. If a baked potato stands after it is cooked it is likely to become soggy. To avoid this, when the potato is done fold it in a napkin and roll the potato between the palms of the hands until it cracks open. Treated in that way the potato will be always mealy.

If an unexpected lunch box has to be prepared and there is no meat available for sandwiches, take the yolk of a hard-boiled egg and mash it smooth with a tablespoonful of melted butter; add half a teaspoonful each of salt, white pepper and mustard, and one-quarter of a pound of common cheese grated. Then stir in a scant tablespoonful of vinegar and spread between thin slices of bread. Such sandwiches will be hailed with delight.

For a quart of good lemonade take the juice of three lemons, using the rind of one. Peel the rind very thin, getting just the yellow outside. Cut this into pieces and put with the juice and powdered sugar, of which use two ounces to the quart, in a jug or jar with a cover. When the water is just at a tea point, pour it over the lemon and sugar, cover at once and let it get cold.

Rolling an umbrella is an art that few understand. The right way is to take hold of the ends of the ribs and the stick with the same hand, and hold them tightly together to prevent their twisting while the covering is being rolled around with the other hand. In this way an umbrella may be as tightly rolled as when it came from the factory. It is the twisting of the ribs out of shape around the stick that spoils the looks of an umbrella.

A chiropodist says that nervous children are apt to have corns. This is oftentimes because such clinch the fingers slightly, almost imperceptibly, and are apt to draw up the toes at the same time. It is a slight frequent movement, and it cramps the toes, and finally irritates the tender surface at the joints. He emphasizes again that it is not broad shoes so much as long shoes that should be worn by growing children, and asserts that the pointed-to shoe, against which such a catalogue of indictments has been brought, is by no means such unhygienic wear as others more commended.

A Dainty Frock.

994—Lynette Dress.
Sizes for 8 and 10 Years.

This dainty little gown is primrose-flowered cream challie, and the plain, full skirt, which is sewed to the wast in gathers or plaits, as preferred, is finished at the foot with a five-inch hem. A fitted lining holds the fullness of the waist in place. The fullness parts in front to disclose a chemisette of embroidered batiste; a wide band of batiste insertion passes over the shoulders, and the shoulder and neck ruffles match the insertion. Omitting the embroidery, the pattern is a suitable one for simple school frocks of serge or shepherd's plaid.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

AN ATTRACTIVE COMBINATION.

986—Gracelyn Corsage.
Sizes for 34, 36, 38 and 40 Inches Bust Measure.

This charming model completes a gown of blue and white plaided canvas, made over blue and green changeable silk, a combination which promises to be very popular this fall. The corsage is slightly fulled at the back, and has a fitted lining, which holds the blouse fullness in place. The effective little jacket has a deep, round collar in the back, and shows an inch or two of the waist at the bottom. Popular combinations are jackets and trimmings of Russian embroidery on gray, black and dark blue fabrics, and Oriental or Persian with olive-green, brown and many light colors. The girdle, which fastens under a bow in the back, is made of folds of black satin, or of the changeable silk.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

Fashion Notes.

It is pleasingly apparent that since last summer the fashion of dress has improved decidedly and in most directions there is less exaggeration, and consequently more actual grace and elegance. Sleeves are undoubtedly smaller, and even the larger ones show a considerable length of tightly-fitting arm. The very thin texture made over a color have the thin material ruffled, puffed or plaited over the closely-fitting silk lining nearly to the shoulder, with a round, very full puff just at the top.

These sleeves are altogether prettier than the large, loose, drooping sleeves, or the huge, stiff, outstanding ones. Then the trimming that is being placed on the bottom of the skirts would indicate that skirts soon will be less full, as it would be impossible to place frills and puffs around a very full, gored skirt. Some of the French gowns are trimmed half way up the skirts.

The pretty girlish sashes are again in full favor with all bodices that terminate at the waist. One pretty way of finishing them is to have two short loops standing straight up the back and three or four longer ones lying down on the skirt, these held in place by the long sash ribbon that passes around the waist and ties in a loose knot between the loops, the ends falling to the bottom of the gown.

Black and white is more of a favorite combination this season than ever; it is becoming and pretty. Shepherd plaid is very much in vogue, and with it comes the quaint, old-fashioned trimming of the skirts, with rows and rows of the pencil velvet. Some of the latest skirts are trimmed in vandykes of three different widths.

White and cream laces and trimmings are used in the greatest profusion. There is one advantage in the employment of these garnitures. One can wear almost any shade or color if it is plentifully decorated with either white or cream-colored thin fabrics, especially lace and chiffon.

The wide godet skirt is fast disappearing, especially for out-door wear, to make way for the becoming jupe gathered or plaited from the hips to the back, but the principal change for the better is that all skirts are cut of a more moderate width.

It is too early yet to predict with certainty what all the styles for next autumn and winter are to be, but there are some straws to show which way the autumn winds will blow, and women of keen observation already are noting some of the signs. Braiding will be one of the new fashions, and even now is seen on the summer gowns. A gown of pale yellow pique has the broad, collar of the Eton jacket a mass of white soutache braid, put on in a most intricate pattern, and sewed only on one side, so that it stands up in a distinct line.

Braiding is pleasant work, and it is possible for a woman to braid a waist, gown or jacket so that it will look as though turned out by a professional, if she has the pattern carefully stamped. Black cloth costumes braided in the front breadth, or with front breadth plain and side breadths braided, are to be among the winter gowns, while brown with green braiding will again be fashionable.

Linen pockets and cases for night dresses and other toilet uses are easily decorated by using white Honiton and other lace braids and put on in a design of lovers' knots, festoons, and medallions. Blue linen looks best decorated in this way, as on white the pattern does not show to advantage. Table spreads of shadow silks made for small drawing-room tables have full double frills of silk muslin for a finish.

The Turkish jackets, heavily braided in gold and finished with bail fringe, are occasionally worn with summer gowns, and, over the full blouses of white chiffon, are exceedingly smart. These jackets are sleeveless, and the soft folds of the chiffon or mousseline de soie are in pretty contrast to the heavy cloth and the gilt braid. The Turkish braiding is, of course, very much more elaborate than any other, and is sewed so that a flat effect is presented.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING AUGUST 18, 1896.

566,265—CAN OPENER—H. Baldridge, San Bernardino, Cal.
566,133—HEATING FURNACE—F. E. Browne, Los Angeles, Cal.
565,965—TELEPHONE REGISTER—John Curran, S. F.
566,267—HAT CREASER—P. S. Dusenburg, Oakland, Cal.
566,073—DRAFT REGULATOR—J. S. Fox, Oakland, Cal.
566,269—ACCORDION—J. Galleazzi, S. F.
566,075—ENVELOPE THREADING MACHINE—M. Gruhe, S. F.
565,978—PORTABLE LOCK—G. W. Haas, S. F.
566,175—DUMPING WAGON—J. G. Holcombe, Newport, Or.
566,079—SOLDERING MACHINE—A. Johnson, Oakland, Cal.
565,992—MILLING MACHINE—E. Johnson, Seattle, Wash.
566,201—BICYCLE—Mackinnon & Gage, Seattle, Wash.
566,092—HOP TWINER—R. R. Parrish, Independence, Or.
566,221—TROUSERS STRETCHER—F. G. Petersen, Seattle, Wash.
566,225—CAR FENDER—F. Reeve, Stockton, Cal.
566,097—SEAMING MACHINE—H. Schaake, S. F.
566,144—INVALID'S BED—J. B. Young, Pasadena, Cal.

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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Sept. 2, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	121,110	1,169,538	599,919
Wheat, ctls	232,439	1,353,646	1,369 697
Barley, ctls	214,998	1,242,843	753,346
Oats, ctls	8,929	68,646	87,153
Corn, ctls	1,960	30,229	14,266
Rye, ctls	803	6,563	4,740
Beans, sks	6,912	42,659	19,297
Potatoes, sks	18,027	164,396	167,258
Onions, sks	2,749	28,748	22,434
Hay, tons	4,962	35,157	36,333
Wool, hales	613	8,754	12,398
Hops, hales	36	258	566

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	142,912	989,152	364,019
Wheat, ctls	261,392	1,149,681	1,671,923
Barley, ctls	181,210	784,853	421,208
Oats, ctls	287	5,620	4,009
Corn, ctls	782	3,436	4,043
Beans, sks	543	31,497	38,042
Hay, hales	1,325	6,060	5,621
Wool, lbs	121,401	2,768,112	4,138,000
Hops, lbs	36,799	181,165	205,748
Honey, cases	23	212	1,476
Potatoes, pkgs	1,294	8,458	19,623

Grain Freights and Charters.

While there has been a very fair business since last review in ships for grain loading, the market has been hardly so active as for the preceding week. There is a moderately firm tone to the market, owing to the slightly improved condition of the wheat trade in foreign centers; but, as before stated in this column, there is little probability of there being any scarcity of deep-sea tonnage this season or of very stiff freight rates being established. This is evidenced by the large number of tramp steamers turning their attention to the wheat trade of this coast, and also by the fact of sailing vessels coming here in ballast.

Charters.

British bark Ellisland, 2355 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d, net.

British ship Ecclefancban, 2031 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d, net.

British steamer Annandale, 2528 tons, now on Puget sound, wheat from this port to St. Vincent for orders; £1 7s 6d—chartered prior to arrival.

British bark Muskoka, 2259 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s, net.

British steamer Longships, 2843 tons, wheat to St. Vincent for orders; if for one port, £1 6s 3d; if for two ports, £1 7s 6d—chartered prior to arrival.

Norwegian steamer Aggi, 2129 tons, wheat to St. Vincent for orders; one port, £1 5s; if for two ports, £1 6s 3d—chartered prior to arrival.

Norwegian steamer St. Andrews, 2009 tons, wheat to St. Vincent for orders; to two ports, £1 8s 9d—chartered prior to arrival.

British ship Rossshire, 2148 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 6s 3d; 1s 3d less direct.

German ship Peru, 2093 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d; direct port, 1s 3d less.

British bark Invergarry, 1309 tons, wheat to U. K., Havre, Antwerp or Dunkirk; private—chartered prior to arrival.

British ship Eastcroft, 1312 tons, wheat to U. K.; £1 8s 9d net, short lay days.

British ship Glendoon, 1824 tons, wheat, flour or merchandise to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d, direct port, £1 6s 3d, chartered prior to arrival.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive.
1896	74,466	21,943	261,504
1895	52,325	3,905	374,036

Flour.

The improved tone of the wheat market naturally operates in favor of flour, but values for the latter have not changed to any appreciable extent, or sufficiently so to warrant any noteworthy change in quotations. The improvement in wheat values has been confined more to shipping than to milling grades. Offerings of flour continue ahead of immediate requirements.

Superfine, lower grades	$2 25@ —
Superfine, good to choice	2 40@2 50
Country grades, extras	2 85@3 15
Choice and extra choice	3 15@3 35
Fancy brands, jobbing	3 35@3 60
Oregon, Bakers' extra	2 75@3 00
Walla Walla, Bakers' extra	2 75@3 00

Wheat.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	5s 1d@5s 2d.	5s 6d@5s 7d.
Freight rates,	30½@—s.	26¼@27½s.
Local market,	$0.92½@95	$0.96¼@98¾.

The prices above are for spot lots of standard No. 1 California in Liverpool, and for good to choice shipping in this city.

GRAIN STANDARDS FOR 1896-97.

The San Francisco Produce Exchange has adopted the following grain standards for the current season:

Wheat.	*Lbs. to the Bu.*
Extra choice milling	60½
Choice milling, 30 per cent club	60½
Choice club	60
Choice Sonora	62
No. 1 Milling, 33⅓ per cent club	60½
No. 1 White, 25 per cent Sonora	60
No. 1 Sonora	61½
Barley.	
No. 1 Brewing, 15 per cent Coast	46
No. 2 Brewing	44
No. 1 Chevalier	53
No. 2 Chevalier	50
No. 1 Dark Feed	42
No. 1 Bright Feed	40½
Rye.	
No. 1 Rye	59

More firmness was developed in the wheat market at the close of last week, as indicated by values on options or futures, speculative operations reflecting the situation much as a barometer is an index of the weather. December wheat advanced to $1.00¾ on Saturday, closing an eighth under the highest figure. The Call Board market was not quite so strong Monday, December wheat closing at $1, but in the spot market there was no appreciable change. Desirable grades for shipment were in fairly good request, with No. 1 to choice quotable at 96¼@98¾c, delivered alongside, and for round lots of desirable quality a moderate advance on above range was possible. Prospects appear favorable for a continued good export demand for some months to come. While values may be slow in advancing, and may not appreciate to any very marked degree, there is little likelihood of prices again receding this season to the low levels which have been lately current. Tuesday and Wednesday options were easier, and spot market was quiet, without being appreciably lower.

California Milling, old	$ 97½@1 02½
Cal. No. 1 shipping, alongside	96¼@ 97½
Oregon Valley	95 @1 00
Walla Walla Blue Stem	90 @1 00
Walla Walla Club	85 @ 95

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, 98⅝c@$1.00¾.

May, 1897, delivery, $1.03½@——.

Wednesday, at regular noon session of Call Board, December wheat sold at 98⅝@99¼c; May, $——.

Barley.

While the export movement this season was rather slow in opening, it has lately more than made up for the tardiness by beating last year's record for the first two months of the cereal year. Shipments from this port for the past two months aggregate close to 50,000 tons, most of this going to Europe. Much of the barley was the ordinary variety of Brewing, and considerable was taken which would not pass in the local market for more than choice feed. Late shipments have included a liberal proportion of Chevalier, one ship clearing for London this week with 1,500 tons as part cargo, most of this lot being of the Chevalier variety. A steamer was floated this week with 7,400 tons barley, the largest cargo of barley ever loaded at this port. Common feed qualities continue to be offered rather freely, as compared with the somewhat limited demand for such stock, but as there is no cheaper cereal now offering, consumers are running more extensively on this than any other grain, although not inclined to purchase extensively ahead. Market for all descriptions of barley has been ruling rather firm at the quotations, which have continued about as last noted.

Feed, No. 1 to choice	63¾@65
Feed, fair to good	60 @62½
Brewing, No. 1 to choice new	72½@80
Chevalier, No. 1 to choice	85 @90
Chevalier, No. 2	60 @75

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, 68@68¼c; May, 1897, delivery, ——@——c.

Wednesday at regular noon session of the Call Board, there were no sales of barley.

Oats.

This market is not showing much life. Desirable qualities of old are, in the main, held at higher figures by the wholesale and jobbing trade than small dealers and consumers care to pay. As for new oats, they are not sufficiently seasoned to be in favor; besides, most of the offerings of new at this date are of quite ordinary quality. Market for new stock cannot be termed favorable to sellers.

White Oats, fancy feed	92½@— —
White, good to choice	85 @ 90
White, poor to fair	75 @ 82½
Gray, common to choice	82½@ 90
Milling	85 @ 90
Surprise, good to choice	95 @1 02½
New crop Cal. Oats	75 @ 87½

Corn.

Trading in this cereal is of a rather light order. Large white continues against sellers, with quite liberal stocks of this variety as compared with immediate requirements. Large yellow has been ruling a little more in buyers' favor than last quoted, mainly due to some recent additional importations from the East of this variety. Small yellow has been commanding barely steady figures.

Large White, good to choice	75 @ 77½
Large Yellow	87½@ 90
Small Yellow	90 @ 92½

Rye.

Inquiry for this cereal is wholly on local account and is of small volume. Market is devoid of firmness.

Good to choice, old	67½@ 70
Good to choice, new	65 @ 67½

Buckwheat.

Same inactivity as previously noted, with little probability of any speedy revival of trade.

Good to choice	90 @ 95

Beans.

The bean market on the Atlantic side is reported as follows by a New York authority:

For domestic white beans the market has undergone no change of importance. Stocks have come along quite moderately, and trade in all directions continues slack. Letters from the interior have been somewhat hullish and have calculated to make a stronger holding here, but they have not influenced receivers much, because of the narrowness of the outlet. It seems quite certain that the incoming crop will be considerably lighter than last year, especially in Canada, and the quality promises to be of a lower grade. In some sections of this State a few beans have been pulled, but we hope that farmers will not be in a hurry to market them. We do not need them now, and the vines should remain until the beans are well matured and dry. Marrow have been selling this week mainly at $1.15 per bushel for choicest quality, a few nice lots shading 2½c. Medium and Pea have held at $1 generally, but some off-grade stock has gone for less. White Kidney entirely nominal. Exporters have not wanted many Red Kidney, and it has been easy to buy the best lots at $1.05. Last sale of Yellow Eye at $1.15. Turtle Soup in very small compass and held higher; some ask more than $1.50 per bushel, the current quotation. Lima slightly firmer, but quiet.

There has been a little business lately in colored beans, principally in Bayos and Red Kidneys, for shipment to Texas, and these varieties have tended slightly in favor of the producing interest. With the above exceptions, the market has shown about as much dullness and weakness as for some time past. White varieties are receiving very little attention. Limas drag at low prices. New Limas have been contracted for in carload lots down to $1.50 f. o. b. at producing points. Buyers are not numerous, nor do they take hold in large quantities at this figure. The price is exceedingly low, and is not likely to remain at present levels; but entirely too many Limas, as well as beans of every description, have been grown in the past two years. There are about 350,000 sacks of old-crop beans still remaining in the State.

Pea, fair to good, 100 lbs	$1 20 @1 35
Small White, good to choice	90 @1 05
Lady Washington	75 @1 00
Butter, small	1 10 @1 25
Pinks	75 @ 85
Bayos, good to choice	1 00 @1 15
Reds	1 20 @1 30
Red Kidneys	1 50 @1 75
Limas, good to choice	1 90 @2 00
Black-eye Beans	1 25 @1 50

Dried Peas.

No recent transactions reported. There are few offering, and there is scarcely any inquiry.

Green Peas, California	$1 15 @1 30
Niles Peas	1 20 @——

Wool.

This market is practically dead and buried. Holders have abandoned all idea of business for the present, or until manufacturers in the East resume operations. In the meantime, foreign goods are pouring into the country at a lively rate, a large proportion of the same being shoddy of the very meanest type. Quotations remain unchanged. As wools are now below the cost of production, it is not believed they can be forced to much lower levels.

SPRING.

Humboldt and Mendocino	10 @12
Northern California free	— @—
Northern defective	5½@ 7
San Joaquin Foothill, good to choice	6 @ 7½
San Joaquin, 12 months	4 @ 6½
San Joaquin and Southern, 6 months	4 @ 6
Nevada, as to condition	7 @ 9
Oregon Valley, select	9 @10½
Oregon Valley, low grade	8 @ 9½

Hops.

Late mail advices from New York have the following regarding the hop market in that center:

Our market is drifting along in a dull, lifeless condition—in fact, the business is so small that values are to a large extent nominal. Dealers who have got hops of desirable qualities do not care to sell unless full rates are obtained, and buyers having no present needs are not inclined to buy. We retain former quotations because they represent as nearly as may be the views of the trade, at the same time it is a market where any effort to realize on stock would necessitate the acceptance of lower prices. Crop conditions have not changed either in this country or abroad, and there is no occasion to alter our previous estimates of the yield. Some of the Humphreys Seedlings are being picked in this State and they are not turning out as heavy as was expected. A few sales are reported at 10@10½c, but neither brewers nor dealers are showing much interest in the new stock. The fact is that the carrying of hops in cold storage so preserves the color and flavor that brewers do not feel the necessity of securing the new crop early.

The local market continues, as elsewhere, in discouraging condition for producers. Speculative operators are carrying large quantities, bought at low prices, but on which they could not now realize the money they invested. When hops went to $1 per pound over ten years ago, it was about the worst blow which could have happened the industry. It stimulated the production to an unwarranted extent, and at the same time greatly restricted the consumption. Hops are no longer a necessity with brewers, the principal consumers, who use them now only because they are cheaper than any of the many

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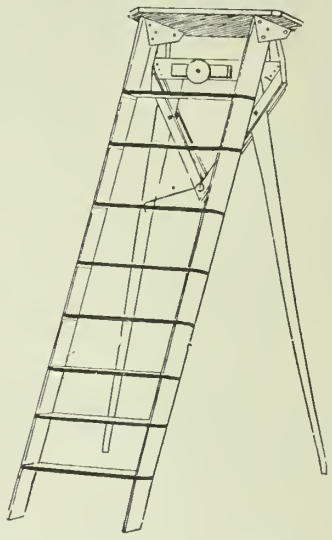

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substitutes devised during the era of high prices.

Fair to choice, 1895 crop	2 @4

Hay and Straw.

Arrivals of hay have been of very liberal proportions the past week, as well as for a fortnight or more preceding. The market is weak, and were not values now so low that they afford no profit to the grower, further reductions in prices would be almost certain to be experienced. Low as prices are, buyers were not eager to operate at full current figures. Owing to the cheapness of hay, straw meets with slow sale at low figures.

NEW HAY.

Wheat	6 50@ 9 50
Wheat and Oat	6 50@ 8 00
Oat	5 00@ 7 00
Barley	6 00@ 7 50
Clover	5 00@ 6 50
Stock Hay	4 00@ 5 00
Alfalfa, first cutting	4 00@ 5 00
Straw, ₱ bale	25@ 35

Millstuffs.

Few changes have occurred in quotable values for millstuffs. Bran has been rather firmly held, and buyers of rolled barley found it necessary in most instances to pay full current rates.

Bran, ₱ ton	11 00@12 50
Middlings	14 00@16 50
Barley, Rolled	14 50@15 00
Cornmeal	19 50@20 00
Cracked Corn	20 50@— —

Hides, Pelts and Tallow.

There is no improvement to record, either in the general tone or in quotable values. Business is slow at the low price prevailing.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	6 @ —	5 @ 5½
Medium Steers, 48 to 56 lbs	-- @ 5	4 @ 4½
Light Steers, under 48 lbs	4 @ —	3 @ 3½
Heavy Cow Hides, over 50 lbs	4 @ 4½	— @ 4
Light Cow Hides, under 50 lbs	4 @ —	3 @ 3½
Wet Salted Kip	— @ 4	— @ 3
Wet Salted Veal	— @ 5	— @ 4
Wet Salted Calf	— @ 6	— @ 5
Dry Hides, round lots, 7½@9c	9 @ 9½	— @ 7
Dry Kip and Veal, 11 to 16 lbs	7 @ 8	— @ 6
Dry Calf, under 4 lbs	12 @14	8 @ 9

Horse Hides, large	75@1 00
Horse Hides, medium	50@ 75
Horse Hides, small	25@ 50
Colts' Hides	—@ 25
Pelts, long wool, per skin	50 @60
Pelts, medium, per skin	40 @50
Pelts, short wool, per skin	20 @35½
Pelts, shearling, per skin	10 @15½
Deer Skins, best summer	20 @22½
Deer Skins, good medium	15 @17½
Deer Skins, thin winter	7 @10
Elk Hides	8 @ 9
Tallow, good quality	2¼@ 2½
Tallow, No. 2	— @ 2
Goat Skins, perfect	20 @35
Goat Skins, damaged	10 @20
Kid Skins	5 @ —

Seeds.

The first new-crop mustard seed of the current season arrived the past week from Lompoc. While the market is firm, not much business has been yet developed in this season's product. Some domestic canary also came forward from the lower-coast section since last review. Flaxseed is meeting with little or no competition from buyers.

	Per ctl.
Mustard, Yellow	1 50@1 75
Mustard, Trieste Seed	2 50@2 75
Mustard, Wild Brown	1 75@2 50
Flax	1 50@ —
	Per lb.
Canary	2½@2¾
Rape	2 @2½
Hemp	3¼@3½
Alfalfa, Utah	—@ —

Bags and Bagging.

Market presents little or nothing of special interest to record at this date. In grain bags there is scarcely anything doing. The light business in other descriptions is at generally unchanged rates.

Grain bags, 22x36, spot	4¼@ 4½
Wool sacks, 4 lb	28 @—
Wool sacks, 3½ lb	26 @—
Gunnies	12 @—
Bean bags	4 @ 4¼
Fruit sacks, cotton	5½@ 7½

Honey.

There are moderate quantities of new-crop comb honey offering, including some of excellent quality, but no new-crop extracted worth mentioning has yet arrived, and very little of the latter is expected this season. The little business in progress is wholly on local account.

White Comb, 1-lb frames	10 @11
Amber Comb	7½@ 9
Extracted, White Liquid	5 @ 5½
Extracted, Light Amber	4½@ 4¾
Amber Colored and Candied	3¾@ 4
Dark Tule	2¾@ 3

Beeswax.

Former values remain in force, but outside figure is obtainable only in a small way for strictly choice.

Fair to choice, ₱ lb	22@25

Live Stock and Meats.

Hogs have been arriving in tolerably large quantity, and were mostly poor, necessitating their being sold at low figures. Prices for beef and mutton remained about as before. Following are wholesale rates:

Beef, 1st quality, dressed, net ₱ lb	4½@ 5
Beef, 2d quality	4 @ 4½
Beef, 3d quality	3½@—
Mutton—ewes, 4@4½c; wethers	4½@ 5
Hogs, hard grain fed, light fat	2⅞@ 3
Hogs, large hard	2¾@—
Hogs, soft and feeders	— @—
Hogs, country dressed	4 @—
Veal, small, ₱ lb	5 @ 6
Lamb, spring, ₱ lb	5 @ 6

Poultry.

This market has shown generally improved condition since last review, with no very heavy arrivals and an increase in the demand. There is no assurance, however, that the market will long remain in healthy shape, as buyers in this line are quick to depress values the first opportunity that presents itself. The moment offerings are ahead of immediate necessities, the producer and seller are at the mercy of the buying interest. For extra large and fat chickens there was a very good demand, such commanding an advance on quotations. Market at close was easier.

Turkeys, live hens, ₱ lb	13@ 14
Turkeys, live gobblers	14@ 15
Turkeys, large young	14@ 16
Hens, Cal., ₱ doz	4 00@5 00
Roosters, old	4 00@4 50
Roosters, young, (full-grown)	4 00@5 00
Fryers	3 00@ —
Broilers, large	2 75@3 00
Broilers, small	2 25@2 50
Ducks, young, ₱ doz	3 50@5 00
Ducks, old	3 00@4 00
Geese, ₱ pair	1 25@1 50
Goslings, ₱ pair	1 25@1 75
Pigeons, Old, ₱ doz	1 50@ —
Pigeons, Young	1 50@1 75

Butter.

Owing to further reductions in arrivals of fresh, the market has developed additional strength since last review, more particularly for choice to select, both creamery and dairy product, square and rolls. Roll butter of select quality is especially scarce. Most of the best and considerable of the ordinary butter now being produced is going into squares. Common grades of fresh are not much sought after. Retailers in most instances are taking packed in preference to ordinary fresh. Market is liberally stocked with packed descriptions and for such is easy in tone.

Creamery extras, ₱ lb	23 @—
Creamery firsts	21 @22
Creamery seconds	18 @20
Dairy select	20 @—
Dairy seconds	16 @18
Dairy, soft and weedy	10 @12
Mixed store	10 @12
Creamery in tubs	15 @16
Pickled roll	15 @16
Dairy in tubs	14 @15
Firkin, Cal., choice to select	14 @15
Firkin, common to fair	11 @12½

Cheese.

The market remains quiet. Stocks are not large, particularly of mild new of desirable quality, but buyers are operating slowly at prevailing rates, prices being considered at a rather high range as compared with values for other dairy products.

California fancy flat, new	8½@ 9
California, good to choice	7 @ 8
California, fair to good	6 @ 7
California, "Young Americas"	8 @ 9½

Eggs.

Choice to select stock, which could be depended on as wholly reliable and suitable for the most fastidious trade, was in light receipt and salable to tolerably good advantage, some favorite marks commanding more than quotations. Cold-storage eggs, domestic and Eastern, and common qualities of fresh, were offered freely and at about as favorable rates to buyers as ruled the preceding week.

California, select, large white and fresh	23@—
California, select, irregular color & size	17 @21
California, good to choice store	13 @16
California, common to fair store	10 @12
Oregon, prime	15 @17
Eastern, as to section and grading	14 @18
Eastern, seconds	11 @13
Duck eggs	16 @17

Vegetables.

Market has been well supplied with nearly all descriptions now in season, and it was the exception where especially good or remunerative prices were realized. Onions continued to arrive in liberal quantity and were offered at low figures. Corn, tomatoes, squash and cucumbers were to be had at prices within reach of consumers in most moderate circumstances.

Beans, String, ₱ sack	50@ 1 00
Beans, Wax, ₱ lb	1½@ 3
Beans, Garden, ₱ lb	2@ 3
Beans, Lima, ₱ lb	1½@ 3
Cabbage, choice garden, ₱ 100	50@ 60
Cauliflower, ₱ doz	40@ 50
Corn, Alameda Sweet, ₱ crate	1 00@ 1 50
Corn, Berkeley, ₱ crate	65@ 1 00
Corn, Green, ₱ sack	50@ 75
Cucumbers, Alameda, large box	10@ 25
Egg Plant, ₱ box	25@ 40
Garlic, ₱ lb	1@ 1½
Okra, Green, ₱ box	25@ 50
Onions, Red, ₱ cental	—@ —
Onions, Yellow, good to choice	30@ 37½
Peas, Green, ₱ sack	50@ 1 00
Peppers, Green Chile, ₱ box	25@ 50
Pepper, Bell, ₱ large box	40@ 50
Pickles, No. 1, ₱ 100 lbs	75@ 1 25
Pickles, No. 2, ₱ 100 lbs	40@ 50
Rhubarb, ₱ box	—@ —
Squash, Bay, ₱ large box	15@ 25
Tomatoes, River, per large box	25@ 40
Tomatoes, Bay, ₱ box	30@ 40

Potatoes.

There has not been much activity to this market for the week under review. Choice to select table qualities, such as the best Burbank Seedlings from Salinas, were not in excessive supply, and brought comparatively good figures. Of ordinary Sacramento river stock there was more than enough for the immediate demand, and buyers willing to take the lower grades were able to purchase at quite easy figures. Sweets were in increased supply and lower.

IN SACKS.

Early Rose, River, ₱ cental	30@ 40
Peerless, River	—@ —
Garnet Chile, Mission	50@ 60
Burbanks, River	30@ 40
Burbanks, Salinas	60@ 90
Sweet Potatoes	75@1 00

The Fruit Market.

Fresh Fruits.

It is gratifying to be able to state that the fresh fruit market has fully recovered from the demoralized, unprofitable and wholly unsatisfactory state for the producing and selling interest which recently existed. Prices for many kinds are still on a low plane, but it is the exception where there is a glut of any variety, and it is still more exceptional where good fruit does not net the grower something over the cost of marketing. Choice to select brought, as a rule, fairly profitable figures.

Apples of fine quality were scarce and wanted. Choice Gravenstein, four tiers to the box, would have readily commanded $1.25 per box. There were no large supples of apples of ordinary quality, but the latter were not eagerly sought after and would not command very firm figures.

Peaches are arriving in only moderate quantity, and for either Clings or Freestones of prime to select quality there is a fair demand, with market moderately firm at the quotations below noted.

Pears of the Bartlett variety are showing greatly decreased receipts. There is a very good shipping and local demand for sound, hard stock, such being salable to advantage. Late pears are not making much of a showing, and there is little call for them at present.

Plums are in somewhat decreased supply, but there are enough to go around, leaving the market, in the main, favorable to buyers, the inquiry not being very active.

Prunes are moving slowly at generally easy rates, this fruit in the fresh state not being a favorite with the majority of consumers.

Figs of second crop are offering in light quantity, but fail to receive much attention, the dullness being mainly due to the quality of the fruit. Figs now coming in are mostly too dry and flavorless to be palatable.

Grapes are still coming forward sparingly, considering that we are now in September and nearing the midst of the season for this fruit. Such as are ripe and otherwise attractive are meeting with a very good market. For shipping purposes, black grapes in fine condition were most in favor.

Watermelons were offered at low prices, giving all an opportunity to indulge in this fruit. The yield in this State was never before so large as this season.

Cantaloupes and nutmeg melons continued about as plentiful and cheap as noted in previous issue.

Berries of the several varieties now in season sold at generally easy figures, despite the fact that there were no large receipts of any sort. The demand was limited, and not of an urgent character.

Apples, Gravenstein, fancy, 4-tier	1 00@ 1 25
Apples, Gravenstein, 50-lb box	60@ 90
Apples, Red Astrachan, 50-lb box	—@ —
Apples, Green, ₱ 50-lb box	30@ 60
Crabapples, ₱ box	25@ 50
Figs, Black, ₱ 2-tier 15-lb box	50@ 75
Figs, Black, ₱ 1-tier box	30@ 50
Figs, White, ₱ box	25@ 50
Nectarines, Red, ₱ box	—@ —
Nectarines, White, ₱ box	—@ —
Prunes, Falkenburg, ₱ crate	35@ 50
Prunes, Hungarian, ₱ box	25@ 40
Prunes, German, ₱ box	20@ 35
Peaches, fancy wrapped, ₱ box	50@ 75
Peaches, good to choice, ₱ box	40@ 60
Peaches, Freestone, per ton	20 00@25 00
Peaches, Cling, per ton	20 00@30 00
Pears, Bartlett, ₱ ton	10 00@20 00
Pears, Bartlett, No. 1, per box	40@ 60
Pears, Bartlett, No. 2, per box	15@ 30
Pears, other kinds, ₱ box	15@ 35
Plums, choice, large, ₱ box	35@ 50
Plums, other kinds, lb box	15@ 35
Plums, ₱ crate	30@ 60
Nutmeg melons, ₱ box	20@ 40
Watermelons, per 100	4 00@ 8 00
Cantaloupes, per crate	35@ 75

Berries.

Blackberries, ₱ chest	2 50@ 3 50
Currants, Red, ₱ chest	— —@— —
Raspberries, ₱ chest	3 50@ 5 00
Strawberries, Longworth, ₱ chest	4 00@ 5 00
Strawberries, Large, ₱ chest	2 50@ 4 00
Whortleberries, ₱ lb	5@ 7

Grapes.

Black Hamburg, ₱ box	35@ 50
Fontainebleau, Cal., per crate	35@ 50
Fontainebleau, Cal., per box	25@ 40
Muscat, per box	40@ 50
Muscat, ₱ crate	50@ 60
Rose of Peru, ₱ box	40@ 50
Rose of Peru, ₱ crate	50@ 60
Royal Isabella, ₱ crate	1 50@ 2 00
Seedless Sultana, ₱ box	40@ 50
Tokay, ₱ crate	65@ 75
Zinfandel, ₱ ton	17 50@20 00

Dried Fruit.

A New York circular thus summarizes the Eastern dried fruit market:

There is some evaporating of apples in different parts of the country, but it is wholly of the early fruit and much of it windfall. Not enough of the new stock has been received as yet to give much idea of values. There has also been less speculative business for future delivery; last transactions of any magnitude were at about 4¼c for prime and 4¾c for wood dried, though some sales have been made a fraction less. Old evaporated are in comparatively small stock, but have only a light peddling trade and values are somewhat nominal; there is pressure to sell prime and lower grades. New chops for October and November delivery held a shade firmer; no offers to sell heavy packed lots below 1¾c. Cores and skins quiet at 1@1¼c. Scarcely any inquiry for sun-dried apples, either sliced or coarse cut. Nothing doing in peaches. Several lots of new raspberries have arrived, but buyers have not seemed inclined to operate and the feeling is weak in consequence. Cherries very slow. But little doing in huckleberries. A few new blackberries here, but no present demand; values nominal. Receipts of California apricots increasing, but they are having fair sale at the figures quoted; all the stock offering thus far has been Royals, but samples of fine Moorparks are shown for which more money is asked. Prunes steady.

The local dried fruit market is not showing much life for this time of the year, sales on Eastern account being far behind those of corresponding period in recent seasons. Some shipments have been made to Europe, Australia and other foreign countries, and there has been a moderate amount of trading on local account, but the aggregate has been small, compared with the volume of offerings.

Apricots have received more attention than any other variety, foreign buyers having taken hold quite freely of this fruit; so there is at present not much of desirable quality offering, and market is firm at quotations.

Peaches have been inclining against sellers, unless of very superior quality. Some extra fancy peeled sold at 12½c, while choice peeled were offered at 9c, without finding buyers. Choice unpeeled sold at 4c in a limited way. Peaches of fair quality were offered at 3⅛c in carload lots at common shipping points.

Prunes for forward delivery are held as last quoted, with little doing in futures. In spot stock we note a sale of 70-80s in boxes at 3⅞c.

Apples of this season's curing are not offering freely to arrive, and sellers are entertaining firm views, quotations being without change. Some evaporated rings of last crop in sacks sold at 4¼c, and sliced in sacks at 3c.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	6 @ 6½
Apricots, Royal, fancy	6¾@ 7
Apricots, Moorpark	9 @10
Apples, in boxes	5 @ 5½
Nectarines, White	3¼@ 3¾
Nectarines, Red	3 @ 3½
Peaches, unpeeled	3½@ 4½
Peaches, peeled	9 @12
Pears, peeled and sliced	4 @ —
Pears, halved, unpeeled Bartletts	5 @ 6
Pears, quartered, unpeeled Bartletts	4 @ 5
Plums, pitted	3 @ 3½
Prunes, in sacks, 4 sizes	2¾@ 3
Prunes, in sacks, small sizes	1½@ 2

COMMON SUN-DRIED.

Apricots, ordinary	— @ —
Apples, sliced	2 @ 2½
Apples, quartered	2½@ 3
Figs, Black	1½@ 2½
Figs, White	3 @ 4
Peaches, unpeeled	3 @ 3½
Plums, unpitted	1 @ 1½

Raisins.

There are few of last crop now remaining. Some 2-crown loose Muscatel of 1895 pack

SPECIAL. A lot of handsome new leather quarter-top piano-box Buggies just arrived; very cheap in price. Write for description and prices.

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were this week placed at 3¼c. In futures there is little doing, buyers both here and in the East being slow to anticipate their wants. Such sales as have been effected for early October delivery show no change in quotable values from those current at date of last issue.

FIRST HALF OCTOBER SHIPMENTS.

Fancy Clusters, per box	1 40@ 1 50
Boxes, London layers, 20-lb box	1 05@ 1 10
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ℔ lb	.3¾@4
Loose Muscatel, 3-crown	3 @3⅛
Loose Muscatel, 2-crown	2½@2¾
Sultanas	4 @4½
Seedless Muscatel	2½@ —

Citrus Fruit.

Lemmon market has been without appreciable change since last review. There were fair supplies, more particularly of the lower grades, while the inquiry was mainly for choice to select. For the latter sort the market was in fair shape for the selling interest, but ordinary qualities failed to attract buyers at other than low figures. Limes in stock were almost wholly imported product, prices for the same remaining as last noted.

Oranges—Wash. Navels, ℔ box	— —@— —
Cal. Mediterranean Sweet	1 50@ 2 50
Cal. Seedlings	1 50@ 2 00
Cal. Valencias	3 00@ 3 50
Lemons—Cal., select, ℔ box	3 50@— —
Cal, good to choice	2 50@ 3 00
Cal., common to good	1 50@ 2 50
Limes—Mexican, ℔ box	5 00@ 6 00
Cal., small box	1 00@ 1 25

Nuts.

Supplies of old are of insignificant proportions. There are no evidences of much having yet been done in new to arrive, and there is nothing upon which to base quotations for the same. To contract new almonds at this date it is likely fully a cent over current quotations would have to be paid.

California Almonds, paper shell	7 @ 8
California Almonds, soft shell	4 @ 6
California Almonds, standard	3 @ 3½
California Almonds, hard shell	2 @ 2½
Walnuts White, paper shell	11 @12
Walnuts White, soft shell	9 @10
Walnuts White, Cal., hard shell	7 @ 7½
Peanuts, Cal., fair to prime	4 @ 5
Peanuts, Eastern hand-picked	5½@ 6½
Pine Nuts	12 @14

California Fruit Sales.

NEW YORK, August 26.—The Earl Fruit Company sold to-day: Pears—Bartlett, $1.35@1.55; Beurre Hardy, $1@1.05. Plums—Kelsey Japan, $1.40@4.05; Egg, 65c@$1.10; Columbia, $1.25. Prunes—Italian, 75c@$1.15; German, 85c.

CHICAGO, August 26.—The Earl Fruit Company sold to-day: Grapes—Malaga, some in poor condition, 45@$1.45. Plums—Bradshaw, $1.25. Prunes—Hungarian, $1.05@1.20.

NEW YORK, August 27.—The Earl Fruit Company sold to-day: Pears—Souvenir de Congress, $2@2.05; Bartlett, $1.05@1.55; Beurre Hardy, $1@1.05 Plums—Kelsey Japan, $1.30@1 50; Egg, 90c@$1.10. Prunes—Gros, 90c@$1.35; German, $1.10; Italian, $1@1 15. Peaches—White, free, 60c@$1; Orange Cling, 65@80c; other varieties, 50@80c.

CHICAGO, August 27.—The Earl Fruit Company sold to-day: Pears—Bartlett, 90c@$1.80; Duchess, $1.25; Beurre Clairgeau, $1.20@1.30. Plums—Bradshaw, $1.25@1.30. Peaches—Late Crawford, 80c; other varieties, 30@90c. Grapes—Tokay, 75c@$2.15; Muscat, 65c@$1.15; Malaga, 50c@$1.30

NEW YORK, August 28.—The Earl Fruit Company sold to-day: Pears—Bartletts, $1.30@1.65. Plums—Kelsey, $1.25@1.65; Quackenbos, $1.25; Victoria, $1.05; Egg, $1.10@1.20. Prunes—Silver, $1.35; Gros, $1.05@1.40; Hungarian, $1.05@1 15; German, 90c@$1.10. Peaches—Orange, cling, $1; other varieties, 45@70c Grapes—Tokay, $1.65@2; Muscat, $1.20; Fontainebleau, $1.05. Quinces, $1.95.

CHICAGO, August 28.—The Earl Fruit Company sold to-day: Pears—Bartlett, $1.30@1.75; Howell, $1.25; Beurre Hardy, $1.25. Plums—Eskworth Imperial, $1.25. Prunes—Italian, $1.20@1.35; Silver, $1.20; Hungarian, 90c @ $1.10; Gros, 95c @ $1.05. Peaches — Crawford, 80c; Susquehanna, 70@75c. Grapes — Tokay, $1.05@1.75; Muscat, 65c@$1.25; Malaga, 40c@$1.05.

NEW YORK, August 31.—The Earl Fruit Company sold to-day: Pears — Bartlett, $1.10@1.70. Plums—Kelsey, $1@1.75; Egg, 85c@$1.30. Prunes—German, 90c@$1.20; Gros, 60c@$1.50 Peaches—Strawberry, 75c@$1.85; California Cling, 65@70c.

CHICAGO, August 31.—The Earl Fruit Company sold to-day: Pears—Bartlett. $1.15@1.45; Congress, $1.10 Plums—Kelsey, $1.25; Fellenberg, $1.25; Victoria, 95c. Prunes—German, $1.15@1.25; Gros, 95c@$1.15; Robe de Sargent, $1.05. Grapes—Tokay, $1.40@1.65; Malaga, crates, $1.55@1.75; half crates, 55c@$1.30.

CHICAGO, September 1.—The Earl Fruit Company sold to-day: Pears—Bartlett, $1.05@1.40 per box. Plums—Kelsey, $2 50; Japan, $1.15; egg, $1@1.20; some in bad order brought less. Prunes—Gros, $1.15 @ 1.25. Peaches — Picquets, late, 80c@$1; Orange Cling, 85c@$1.05. Grapes—Tokay, $1.40@1.75; Muscat, 85c@$1.35; Malaga, 60c@$1.15.

NEW YORK, September 1 —The Earl Fruit Company sold to-day: Pears—Bartlett, $1.45 @ 1.80. Plums—Kelsey, $1.40@1.45; Bradshaws, $1 @ 1.15. Prunes—Italian, $1@1.15; gros, $1.15@1.35; Hungarian, $ .45. Grapes—Tokay, $1.45 @ 1.85; Fountainbleau, 80c. Peaches — Susquehannas, $1 05. Other varieties 50@80c.

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DRIED FRUITS
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Members of the San Francisco Produce Exchange.
Personal attention given to sales and liberal advances made on consignments at low rates of interest.

Patrons of Husbandry.

Santa Rosa Grange and the Agricultural College.

Officers and Members of Sonoma County Pomona Grange: Your committee appointed to report an expression of the sense of this body on the subject matter of the "Report of the Committee on Ways and Means of the Board of Regents of the University of California," which has been submitted to the attention of the Granges of this jurisdiction, and an expression of opinion solicited, very respectfully offer the following:

By the terms of the act of Congress of the 2nd of July, 1862, provision was made for a munificent endowment of a College of Agriculture, Mechanical Arts and Mining in such of the States as would take the necessary action to avail themselves of the appropriation.

The Legislature of California so far complied with the requirements of said act of Congress as to become possessed of the endowment and turned it over to the management of the Board of Regents of the University.

Under their able management it has been made to render valuable aid to the cause of education in what is termed "the learned professions." But its contribution to education in agriculture, mechanical arts and mining is not apparent.

We have had the pleasure of perusing the very able report of a committee of Tulare Grange on the subject committed to us, which so forcefully expresses the views of your committee that we recommend that it be approved and concurred in by this Pomona Grange. [See PACIFIC RURAL PRESS of July 11th for the report alluded to.]

S. T. COULTER,
G. N. SANBORN,
W. W. CHAPMAN,
Committee.

Meeting of the Executive Committee.

At the last meeting of the Executive Committee of the State Grange profound sorrow was expressed for the death of Lecturer Ohleyer, but it was determined to postpone action thereon until the meeting of the State Grange in October. As there are no pressing duties for the Lecturer's office at this time, the vacancy will not be filled.

As is well known, the funds of the Order have for some months been "tied up" in the collapsed Grangers' Bank; but the Executive Committee has advices from Treasurer Logan to the effect that payment will soon be made. There has never been any question as to ultimate payment in full, but at one time it was feared that the settlement might be longer postponed.

In Memory of the Late George Ohleyer.

At a regular meeting of Petaluma Grange, No. 23, P. of H., held this day, it was

Resolved, That in the death of Geo. Ohleyer the Grange lost a capable and an efficient officer, the community a liberal and broad-minded citizen, the family a kind and loving husband and father.

Resolved, That we as a Grange and citizens sympathize with the family in their bereavement.

Resolved, That a copy of these resolutions be forwarded to the family and a copy sent to the PACIFIC RURAL PRESS.

W. W. CHAPMAN,
M. D. HOPKINS,
A. S. PECK,
Committee.

Petaluma, Aug. 22, '96.

Grange Notes.

A Grange is the best form of a farmers' club that can be possibly organized. Wherever ten good, earnest farmers live in one neighborhood, and desire to meet together, with their wives, for mutual benefit and for social purposes, they should organize themselves into a Grange. They then have all the advantages of a club and the great additional advantage of the Grange organization, giving them the opportunity to co-operate with their brother farmers throughout the State and the country in securing needed reforms, better government, lower taxation, etc., and also the advantage of co-operation in buying and selling. Farmers, organize a Grange wherever ten of you can "agree together as touching one thing."—Ohio Farmer.

No Order or association of men in this broad land has done so much to enlighten and instill the spirit of patriotism and independence into the masses of the people as has the Order of Patrons of Husbandry; and while our Order, in its associate capacity, is and will be kept free from any partisan entanglement, we wish to have it distinctly understood that the farmers are henceforth to be a very important factor in shaping the legislation and in securing its enforcement in this country.—Farmers' Friend.

The spirit of selfishness is the most crying evil of our politics. It can be eradicated only by education and by persistent effort. If we could only have men in our public service who are truly patriotic in the sense of being willing to sacrifice their personal interests for the public good, we would get along pretty well under almost any form of government and under almost any laws. It matters much less what sort of laws we ask for than it does what sort of men we send to make the laws. The men we want must first be intelligent and well-informed, though they need not be scholars. They must be perfectly honest, though they need not be poor. And above all, they must be men who will keep ever before them the good of the whole people, and not the wishes of a small clique, nor the apparent benefit to themselves. The Grange has a clear duty in this matter; it must first educate its members to believe, not only theoretically, but practically, that this spirit of patriotism is the thing most needed in our politics. Then the members of the Grange should make an effort at every opportunity to endeavor to secure for public place men who possess this spirit. All this is a hard task, but not an impossible one. You can find the men if you want to, but it means that you must go to work now and keep at it until the proper men are chosen. We have no sympathy with anybody who neglects this sort of work and then will complain next winter when his member of the Legislature fails to do his duty.—Grange Visitor.

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4	48	2⅜	"	2½ in.	4000 lbs.
3	50	2⅞	"	4 in.	6500 lbs.
6	38	1¾	Concord Steel.	3 in.	4000 lbs.
1	40	2	"	2½ in.	6000 lbs.
1	40	2	"	3 in.	6000 lbs.
2	40	2	"	4 in.	6000 lbs.
8	18	3¼	Steel Skein...	2 in.	4000 lbs.
2	18	3¼	"	2½ in.	4000 lbs.
8	19	3½	"	2¼ in.	5000 lbs.
4	19	3½	"	3 in.	5000 lbs.

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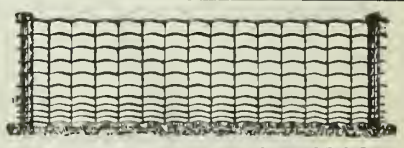
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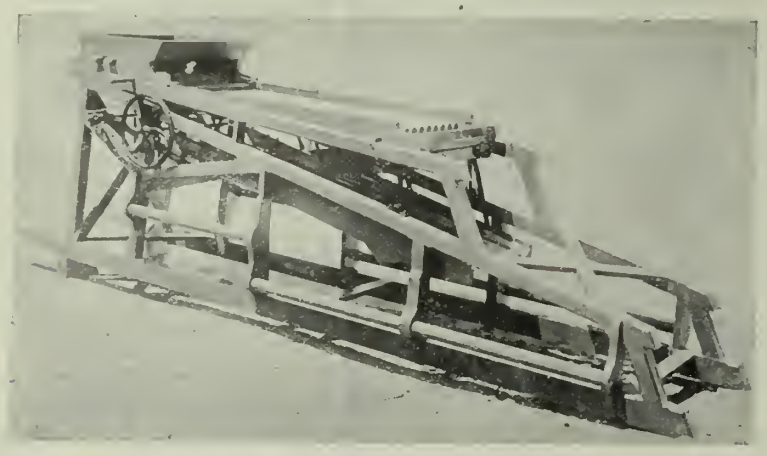

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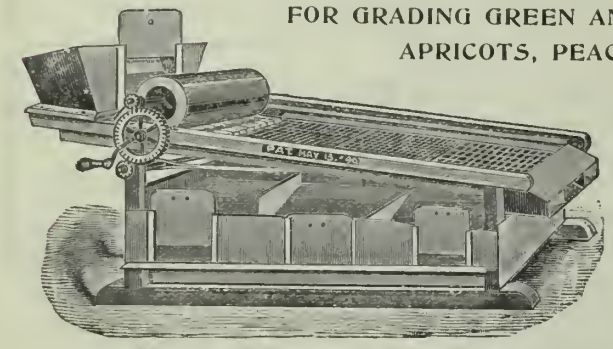

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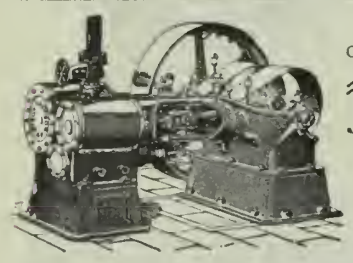

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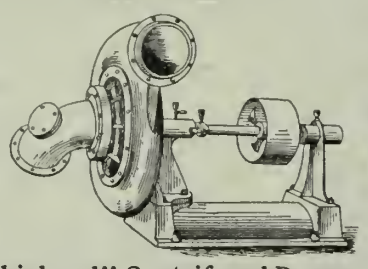

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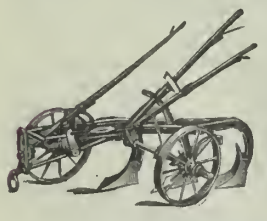

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THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LII. No. 11. SAN FRANCISCO, SATURDAY, SEPTEMBER 12, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.

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Sugar Gum and Mountain Gum.

This week's glimpse at the eucalypts will serve especially to enforce the great variations in form of the seed vessel in the different species. Those selected are not the widest contrasts, for such would be better emphasized by the use of this week's plates in connection with that of the *calophylla* or *ficifolia*, both of which have striking variations in size as well as form when compared with these. And yet compare these two and then contrast them both with the common blue gum, which can be seen in every valley neighborhood, and the resources of the eucalyptus family in the form of seed packets can be imagined, though not fully appreciated, for nothing short of a collection of many species will convey an adequate idea of typical forms.

One of the figures (and of course both of them are reproduced from Abbot Kinney's new book on the "Eucalyptus," to which we have frequently alluded) shows the foliage and fruit of the "sugar gum" *E. Corynocalyx*, which is one of the best of the eucalyptus, and has recently been frequently and considerably planted in California, especially at the south. It is a favorite gum in Australia, for in South Australia, which is the California of the great island continent, the Government forest planting included something like fifteen times as many sugar gums as all other eucalyptus species combined. Mr. Kinney cites Australian observation and experience to show that undoubtedly the sugar gum is the best of all eucalypts for planting where rainfall is somewhat uncertain. During the driest and most trying period of the year the trees continued to grow and looked well. It survived where the *globulus*, our common blue gum, perished from drouth.

The sugar gum makes a more symmetrical top than most of the eucalypts, which renders it desirable as a road tree; and it has dark green, glossy foliage and a white trunk, both of which make a striking contrast with its red branches. The sugar gum has nearly round leaves of the same dark color as the mature form, and generally has a steel blue glint in or over the dark green. This young form, says Mr. Kinney, is much more persistent in the sugar than in the blue gum; in fact, trees at least six years old still have the lower third of their foliage more or less oval, while the fully mature leaf is lanceolate. The botanical name of the species (*corynocalyx*) is derived from the club shape of the calyx before flowering, which is characteristic of this species alone. The engraving shows this form, which is that of an Indian club. The general form of the tree is also that of an Indian club, and it reaches an altitude of 120 feet with a thick trunk which yields much good, durable timber.

The other species shown on this page has a peculiar cap over its seed vessel, oblong and larger but not pointed nor curved like the flower caps of *rostrata*. It is *tereticornis* and it is the most strongly scented of all the eucalyptus, strong enough in the odor of its leaves to drive away setting hens whose nests are made with them, which is certainly a most emphatic tribute to their potency. Other eucalyptus leaves will drive the lice from hens' nests, but it is reserved for *tereticornis* to drive away the old hen herself. The tree makes an awkward growth, tall and slender, and sometimes reaches 100 feet in height. Mr. Kinney says about as hard things of *tereticornis* as it is possible for one to say who is in love with the whole family, and yet he credits it with being hardy in growth and yielding durable timber. The tree is growing in many widely separated regions at the south.

THE MOUNTAIN GUM—EUCALYPTUS TERETICORNIS.

THE SUGAR GUM—EUCALYPTUS CORYNOCALYX.

THIS year's overland fruit shipments are keeping closer to last year's figures than has been anticipated. M. R. Beard, the secretary of California Fruit Growers' Union and Shippers' Association, has prepared a statement of the amount of fruit shipped East this season and last which shows 2602 cars, against 2975 cars to the same date last year. It is interesting to see how the farther East is advancing in its call for California fruit, as these figures show:

	1895.	1886.
Chicago	354	266
New York	265	340
Boston	109	173
Philadelphia	23	31

Perhaps the falling off at Chicago is partly due to more direct shipments to other Western points, but the New York and Boston figures seem to indicate a straight gain.

PACIFIC RURAL PRESS.

Office, No. 220 Market St.; Elevator, No. 12 Front St., San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Any subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

Our latest forms go to press Wednesday evening.

Registered at S. F. Postoffice as second-class mail matter.

ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, September 12, 1896.

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The Week.

The weather has taken a straight course and given us a week of dry, bright and warm days—most excellently adapted for autumn work. There has, however, been almost too much moisture in the air to favor rapid fruit drying and ripening of later fruits also has been delayed in some regions. It seems to be an arrangement to give time to go to the State Fair, for it is not of much use otherwise.

The following data for the week ending 5 A. M. Wednesday, Sept. 9, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	....	.68	.21	.83	64	50
Red Bluff	....	.54	.16	.30	100	66
Sacramento	....	.20	.04	.16	*	56
San Francisco	....	.13	.01	.13	76	53
Fresno	....	.20	T	.10	100	68
San Luis Obispo	....	.24	T	*	84	54
Los Angeles	....	.07	T	.10	88	58
San Diego	....	.06	....	.10	76	62
Yuma	T	.50	.01	56	106	80

* Indicates no record.

Who Wants Farmers' Institutes?

In the last issue of the RURAL we described quite fully the spirit and purpose of Farmers' Institute meetings now being arranged by the University of California. Where these meetings shall be held depends much upon the manifestation of interest which the people in the different regions evince. The organizer of the meetings for all parts of the State north of Tehachapi is Edward F. Adams, of Wrights, and he is issuing circulars calling attention of agriculturists to this subject. From one of these circulars we take the following:

It is desired to hold not less than fifty Farmers' Institutes in this State during the next six months. Other things being equal, communities applying first will have the preference. As a prerequisite to the appointment of an Institute it is required:

1. That twenty or more persons, and as many more as possible, shall signify, in writing, their desire for an Institute and their intention of attending it.
2. That the use of a suitable hall, heated and lighted as may be necessary, shall be assured without expense to the State.
3. That there shall be a committee of one or more persons who shall be responsible for all local arrangements, including the proper advertising of the meeting by means of posters, and by frequent notices in the local press, and programs printed at local expense.

Compliance with the above requirements may be certified to the Organizer in any way which may make clear to him that they have been complied with, but blanks for the purpose will be supplied on application to him at the address given below.

Any person who desires that an Institute be held in his vicinity may be one of the first to get an application on file by, immediately upon reading this, securing the requisite signatures, and causing the committee called for to be appointed. As it is expected, now that public attention is called to the subject, that there will be more applications than can be granted this year, the above will be a wise course for any one interested to pursue.

It is urged that the Granges, Alliances, Farmers' Clubs, Fruit Exchanges, Horticultural and Dairy Societies, and other organizations of farmers take the lead in promoting these Institutes, and that they begin by appointing the required committee; but the University must insist upon the evidence of individual signatures to show that the subject has been presented to at least twenty different persons and received their approval. Resolutions of organized bodies, however, accompanying the application will be very notable additional evidence of local interest.

Readers of the RURAL who desire to file early their declaration of desire for an Institute in their localities will find the above a full description of procedure, and can take immediate steps under it. All correspondence on the subject should be addressed to Edward F. Adams, Wrights, Cal.

At the State Fair.

The State Fair, the opening of which at Sacramento was noted in last week's RURAL, is progressing in most encouraging form, and our readers should bear in mind the fact that it may be seen in all its glory until the end of next week, September 19. This unusually long period should make it convenient for many more people to attend without uncomfortable crowding—a fact which we hope will be duly appreciated.

At the park there is a great concourse and a wealth of sights. There are horsemen and turf followers who never before attended one of our State Fairs. There are now housed about 400 running, trotting and pacing horses—fully twice as many as were ever seen there before. The track is in fine condition, and the probability is that many coast and some world's records will be lowered. The Park never presented a more attractive appearance. The fences and outer wall were brilliant in a coat of shrimp pink, while the judges' stand and grand stand, freshly painted, were pleasing to the eye, and many and frequent favorable comments are made upon the appearance of the appointments generally.

At the pavilion very great and very new experiences are met this year. "This is the first time in sixteen years," said Secretary Edwin F. Smith to a *Bee* reporter, "when the pavilion opened with every inch of exhibition space taken. We cannot consider any more applications for space. We haven't any more room."

This statement contrasts strongly with conditions which existed in certain other years, when it is recalled the society was obliged to send out agents to solicit men to exhibit. This year no solicitors went out. Nobody was urged to exhibit. The society, on the contrary, has had all it could do to handle the volunteered applications. The pavilion, too, was in better shape on its opening day than ever before. The special agricultural features at the pavilion, including the dairy, the poultry and the fruit departments, are developed this year with exceptional effort and success. Actual dairy practice is shown, both in butter and cheese making. The fruit exhibit, under supervision of the State Board of Horticulture, also has unique features. One of the features is a row of growing olive trees, the branches of which are covered with the green fruit. Alongside in jars are samples of the fully-developed fruit from these trees, together with bottles of oil, the product of the fruit shown. Each exhibit is plainly marked by name.

On great rows of tables running from end to end of the north wing are shown plates of California fruit, and this year hundreds of varieties of apples and pears are displayed that were never placed on exhibition before. There are 150 plates of pears, no two of which are alike, and 250 plates of apples, of which the same can be said. These, with many other kinds of fruit, are classified and carefully labeled with their proper names. There are a few varieties of tropical fruits, and every known variety of almonds, walnuts, filberts, not to mention the scores of other kinds of California nuts.

There is also a display of sugar beets each with a statement of its sugar contents. The wine exhibit in the north wing of the pavilion is better than has been shown on any preceding occasion, say those who are familiar with that department. The vintage of nearly every leading vineyard in the State, numbering over fifty varieties of wine, are shown and the grapes from which the wine is made are displayed alongside.

These are but a few of the features of the fair. It is impossible to particularize amidst such a wealth of material. One has to give days to study of the fair to give any idea of its attractions and significant industrial points. It will be a good time to do that all next week.

SAYS the Gilroy *Advocate*: "Mr. Wolfe has surprised the natives in his crop of sugar beets. Profit from any product of the Cullen tract was something unheard of until Wolfe farmed it. Truly our land sharps are not wise. Work has done it all; cultivation, not surface scratching. Forty acres of beets will pay Mr. Wolfe for his enterprise, and with the experience gained he will make more money next season. No beets have reached the factory this season with a larger percentage of sugar. His land is adapted to the production of the most desirable beet. Some few have grown beyond the limit; beets are not wanted to weigh more than five pounds. When our beets, on analysis, are found to contain 50 per cent more sugar than the beets of the coast, they command attention. Favorable terms will be made here with growers the coming season. We have thousands of acres suitable for beets, and we shall not be surprised to see thousands of acres planted."

Pith of the Week's News.

AT Benton Harbor, Mich., on Sunday eleven firemen were burned to death.

JESSE R. GRANT of San Diego, a son of General Grant, announces himself a Populist.

SANTA BARBARA will issue bonds to supply the city with water from the Santa Ynez river.

IT is reported that all the seaports of China will be opened upon Li Hung Chang's return home.

THE records of the U. S. pension office show the death rate among war veterans to be four for each hour.

THE Nevada Populists decline to fuse with the Democrats and have named a complete independent ticket.

THE pacing horse John R. Gentry made a mile in 2:03¼ at Fleetwood Park, New York, on Wednesday last.

UNDER orders of the health department, many old rookeries in San Francisco Chinatown are being torn down.

MAJOR THADDEUS S. CLARKSON of Nebraska has been elected Commander-in-Chief of the G. A. R. for the ensuing year.

MR. MCKINLEY is still receiving delegates at his home at Canton. A little later he will go to the Atlantic Coast for rest and cooler air.

A PARTY of whale hunters in Puget sound harpooned a big whale last Friday and it towed their boat for four days and 100 miles before being killed.

AT Red Bluff, on Saturday last, fire destroyed the Concordia stables and other property worth upwards of $20,000. Fourteen horses perished in their stalls.

AT last it has been determined that California stone shall be used in constructing the Union depot and ferry house at the foot of Market street in San Francisco, and the work will proceed.

ADMISSION DAY—Wednesday, 9th—was celebrated in great style at Stockton. The attendance of Native Sons and Daughters was very large. The exercises were of a highly patriotic spirit.

IT is believed by the commissioners of Napa county that in the long run stone bridges are cheaper than either wood or steel; and a fine example of stone bridge work has recently been completed in St. Helena at a cost of $14,000.

E. W. HOLMES, for many years the able and diligent editor of the Riverside *Press*, has sold out his interest and resigned the editorship. Messrs. E. P. and A. F. Clarke have succeeded to Mr. Holmes' interest and to his duties.

THE Cambria Iron Works at Johnstown, Pa., shut down last week, throwing 2000 men out of work. Lack of orders is the reason given. If this is to be the condition of industry in the East, it does not promise well for the demand for California fruits this winter.

THE ship Rossshire, just arrived at Glasgow from San Francisco, had a bad passage, losing her rigging, upper works and general supplies, and having at the last to use wheat from her cargo for fuel. All the available food for several weeks was parched and boiled wheat.

JOHN HAYS HAMMOND, now in England, makes no scruple of admitting his share in the recent rebellion in South Africa. In the way of justification, he declares the regulations of the Boer Government to be intolerable, and says that there must be a change before the mines can be opened.

THE Populist candidate for the Vice-Presidency, Mr. Watson, is getting impatient to be formally recognized; and has addressed an open letter to the Chairman of the Populist National Committee, asking when he is to be officially informed of his nomination. It will not be, it is understood, until after the Maine election.

THE "University Chapel Union" has been organized at Stanford for religious work among the students. A proposition to call the new organization the "University *Christian* Chapel Union" was voted down and the word "Christian" eliminated. It strikes us that the partisan religious nerve at Stanford must be very sensitive.

THE patriot army in Cuba is said to be in deplorable straits. The rank and file are in rags, poorly armed and short of ammunition. Of horses, there are almost none left. It is said that American filibusters, of whom there are a goodly number in the patriot ranks, make poor soldiers, and that some of them have deserted to the Spaniards to escape hardships.

ROBBERS made an attempt, on Friday night of last week, to hold up the Atlantic express in Yolo county, halfway between Davisville and Sacramento; but were frustrated by the courage of the engineer, Edward F. Ingles, who shot and killed the leader of the gang, and took his train unharmed into Sacramento. The dead robber was identified as F. J. Morgan, well known to the police.

MR. SEWALL, Democratic candidate for Vice-President, has written two interesting letters during the week—one to Mr. Bryan saying that no consideration for him (Sewall) should influence him in doing (in the matter of the Populist nomination) what may seem best for the interests of the silver cause. The second letter is an announcement that he has and has never had any intention of withdrawing from the Democratic ticket.

MR. BRYAN'S campaign continues and he has had a busy week of it. He has spoken in Ohio, Indiana, Illinois, Michigan and Wisconsin—everywhere to vast audiences and always, of course, upon the money question. With reference to the tariff he says simply that that must wait until the financial policy of the country shall be established. On Monday—Labor Day—Mr. Bryan addressed a crowd of many thousand working men at Chicago.

THE Republican majority in Vermont turns out to be in the neighborhood of 39,000 or nearly double that of last Presidential election. The next State to vote is Maine, the home of candidate Sewall. The election will occur on Saturday of this week (12th inst.) There are four tickets in the field, one Republican, one Populist and Prohibition and two Democratic. It is expected, of course, that the Republicans will win as usual and interest centers in the size of the majority vote.

THE gold Democrats at Indianapolis nominated Senator Palmer of Illinois for the Presidency and Ex-Governor Buchner of Kentucky for Vice-President. The platform denounces the Chicago platform as un-Democratic and revolutionary and pledges the "National Democratic Party" to the cause of "sound money" and the integrity of the Supreme Court. Nothing has yet been done toward organizing a campaign in the several States and probably nothing will be done in any State on the Pacific Coast. In California, certainly, the choice will be a straight one between McKinley and Bryan.

LI HUNG CHANG has been to Washington and to Niagara Falls and he is now en route across the country to Vancouver, on his way home. An invitation from Mayor Sutro to visit San Francisco was politely declined. Li Hung Chang's parting tribute to America, given to the Associated Press just before leaving Washington, was as follows: "The three foremost men in history have been Napoleon, the Chinese Emperor Yao and Washington. Napoleon created an empire which was speedily destroyed: Yao created an empire and then proceeded himself to rule over it; Washington built up a great nation and then stepped aside, leaving others to govern."

Gleanings.

It is believed that the pack of canned fruit this year is the heaviest in the history of the State.

Pleasanton hop growers called on the Free Labor Bureau in San Francisco last week for 250 hands.

The fresh fruit season is about over in Sonoma county. A few carloads of pears will end the shipping till next year.

Near Woodland, on the 7th instant, H. P. Snavely was knocked under a sectional harrow and terribly lacerated. He is expected to recover.

Seven thousand trays of prunes at the Santa Cruz drier were out in the rain of last week, but the damage was scarcely worth mentioning.

There is an immense crop of wild plums in Gravelly valley, ten miles east of Fall River, and the whole country is engaged in picking and preserving them.

Twenty thousand persons took in the circus at San Jose one day last week, which would seem to prove that times are not so desperately hard as some would have it appear.

The Bellflower season is just opening in the Pajaro valley. The home market—that is, San Francisco and the San Joaquin and Sacramento valley towns—will this year be the main dependence.

Juillard's Sebastopol winery has been completely renovated for this season's operations. New engines have been set up with greatly increased power and two new elevators have been put in. Twenty dollars per ton is the offer for grapes delivered at the winery.

The *Pajaronian* says that there is no Eastern demand for apples, and the outlook is not favorable for any shipments across the mountains except to fill contracts. An Eastern fruit firm, which made some conditional contracts here, has canceled same because of big crops in the Western States.

The *Chronicle-Record* says that the red spider has done considerable damage in the prune orchards near Chico. They have left the trees almost devoid of leaves, and the hot sun beating down upon the fruit has caused it to burn and sink. It will be three weeks yet before the orchardists pick this fruit to dry it.

Says the Ontario *Record:* "The crowd of grape pickers who were employed in Etiwanda vineyards have returned. They were unable to compete with the Chinese and Mexican pickers, who work for 65 cents a day and board themselves. It is safe to predict that they are not in favor of Bryan for the next President."

All the dried apricots in the valley, says the Suisun *Republican*, have been sold with the exception of twenty or thirty tons. The purchasers have been the J. K. Armsby Co., Johnson & Locke and Porter Bros. The price paid for the best quality was 6½ cents per pound, and the second grade 5½ cents per pound.

Operations at the Sebastopol cannery have about closed for the season. Nearly all the fruit has already been contracted for by San Francisco and Eastern firms and has been stored away subject to orders. Several people will be kept busy in the cannery until quite late in the season, labeling cans and otherwise preparing the fruit for shipment.

The last shipment of fresh fruit to London panned out somewhat better than earlier consignments. At a sale last Friday, consisting of 5000 half cases, the prices realized averaged 2s better than the previous sale, owing to the scarcity on the market. There was much dissatisfaction with the lot of pears, which were small and hard, and only fetched 3s 3d. The peaches brought 4s 6d to 5s 6d; plums, 7s 3d; pears, 3s 9d to 5s 9d.

Montreal, September 2.—In South Essex county, the fruit garden of Canada, the late peach crop is much better than the early crop was. It cannot be remembered when there was such an abundant crop of apples, and a peculiar feature is that the older orchards are bearing much more than young orchards. Prices are extremely low, being hardly enough to make it worth while to pick the crop. The grape crop is not so abundant as other fruit; storms have caused great destruction to grapes; hundreds of acres were blown level with the ground, and were rotting so badly the farmers have had to burn the vines off the field.

Weather and Crops.

The following synopsis of the weather and crop conditions during the week ending Monday, September 7th, is issued by the State Agricultural Society in co-operation with the U. S. Climate and Crop Service, James A. Barwick, section director:

No precipitation was reported from any station excepting Fresno, where there was a sprinkle.

The climatic conditions during the week were good for all growing and maturing crops, and also for fruit drying, hop picking, raisin making, bean pulling and walnut harvesting.

The lima beans in Ventura and Santa Barbara counties will be less than at first anticipated, on account of the hot wave which passed over that section of country when the bean pods were forming.

Highest and lowest temperatures: 101° at Lime Kiln, Tulare county, and 46° at Hollister, San Benito county.

Sacramento Valley Counties.

Butte County (Palmero).—Grapes are being picked. (Pentz).—Highest and lowest temperatures 96° and 60°. The storm of the previous week did no damage to anything except dry feed. (Chico)—The prune orchards are suffering from the red spider.

Colusa County (Colusa).—Beet tests show encouraging results.

Sutter County (Yuba City).—The prune crop is now coming in and will be above the average. Pears, late peaches and plums are being handled in large quantities and the almond harvest has also commenced. In the vineyards the season has just opened. The seedless varieties and Muscatels will be an average crop and considerable shipping is being done in table varieties while the wine grapes will be sent to the winery. Taking it altogether this season has been a good one for shipping, drying and canning.

Yuba County (Wheatland).—The hop crop is coming on very nicely and as yet the lice has given no trouble.

Placer County (Roseville).—The grape crop is much better than expected, the yield will be about two-thirds of a crop.

Sacramento County (Galt).—Flax has been a very successful crop this year. Hop picking is in progress on the bottom lands of the Consumnes river. The almond harvest is well under way in this part of the State. (Folsom).—The rains of the previous week has slightly damaged the raisin crop. (Sacramento)—Highest and lowest temperatures were 94° and 57°. Fruit is being shipped to Eastern points in large quantities.

Yolo County.—Farmers are busy cultivating their summer fallow.

Solano County (Suisun).—Almond harvesting is in full blast. (Binghamtown).—There are very few grapes in the vineyards owing to the late frosts.

Contra Costa County.—The rains of the previous week damaged early grapes.

Napa, Sonoma and Santa Clara Valleys.

Sonoma County (Cloverdale).—The weather has been very favorable for all crops. Peaches, except the very late varieties, are about all gone. Apples are plentiful. The weather is just right to increase the sugar in the grapes, which crop is doing well. (Asti)—Grapes are ripening fast and picking will begin during the coming week. Highest and lowest temperatures, 95° and 54°. (Santa Rosa)—The grape crop in this part of the county will be fully two-thirds of a crop, and in quality it will be a good one. Some very peculiar freaks were played by the frost. There are vineyards where the crop will be almost a total failure, and adjoining them the vineyards were left unharmed.

Santa Clara County (Los Gatos).—The first rain of the season occurred on August 29th; there was .70 of an inch moisture. Prune drying was well on and fruit on the trays flattened out. Owing to the sun appearing after the rain and the weather being warm, no damage was done except to prunes, which were wet and lost their gloss. (San Jose)—The weather has been foggy and cloudy until noon almost every day, which is bad for fruit drying. Prunes are turning out a lighter crop than was expected, the size being smaller than for years.

San Benito County.—The beet crop is turning out better than was at first expected.

San Joaquin Valley.

San Joaquin County (Lodi).—Crops are about all matured in this county. The almond harvest will close in another week. There is a little more activity in the melon market. Farmers are busy hauling their grain, stacking straw and getting ready for a change of season. Highest and lowest temperatures, 91° and 56°. (Selma)—Grapes are ripening slowly and very few vineyardists have begun picking, as too early picking renders the fruit unfit for raisins. (Easton)—Although the weather is hot, the Muscat grapes are late in ripening. Picking in this locality has not commenced. The picking of wine grapes is pretty well advanced.

Fresno County (Fresno).—The weather has been fair for raisin crop, but warmer weather is needed for raisin curing. Highest and lowest temperatures 100° and 57°. (Auberry)—The weather has been somewhat cooler. Highest temperature 94°.

Kern County (Bakersfield),—Grape picking has commenced and from the present indications the raisin output of this county will be the smallest since the industry attained importance.

Southern California.

Santa Barbara County (St. Maria).—The bean crop on the mesa and through the sand hills is quite a light one. It is estimated that the bean crop will not be more than one-half what it would have been had it not been for the warm weather at the time the pods were setting on the vines. (Santa Barbara)—The walnut crop is doing finely, and when entirely harvested at the end of October, is estimated at about 100 carloads.

Ventura County (Ventura).—The hot weather has damaged the pods on late lima beans. Harvesting has begun on limas, and the yield will be much below the estimate that was first made at the beginning of the season. (Santa Paula).—The weather has been very promising for all crops, and farmers have commenced to thresh their beans. The walnut growers will soon begin to gather their crop.

Los Angeles County (Rivera).—The walnut growers are preparing for the biggest harvest ever known in this section.

San Bernardino County.—The foggy mornings have had a bad effect on the beets, and the percentage of sugar is slightly lower. Highest and lowest temperatures 96° and 62°.

San Diego County (Poway).—Highest and lowest temperatures 92° and 64°; all crops doing well. (Bernardo)—Harvesting completed; grape picking will begin next week. (El Cajon)—Weather has been warm and dry. Raisin grapes are beginning to ripen. There will be about two-thirds of a crop.

Coast Counties.

Humboldt County (Eureka).—Crops and stock doing well since rain of August 29th and 30th.

Mendocino County (Ukiah).—Hop picking is now in active progress all over the valley and also around Hopland.

Monterey County (Salinas).—The rains of the last part of August did no damage to the growing and maturing crops.

San Luis Obispo County.—The weather still continues favorable to crops and feed.

HORTICULTURE.

Olive and Olive Products in America.

By John S. Calkins of Pomona, read at the Farmers' Institute, Fullerton, Cal.

Jefferson's Views of the Olive.—The olive has attracted attention in this country from a remote period of our history. As early as 1755 olive trees were imported and planted at Charleston, S. C., and later at other Southern points. In 1789 Thomas Jefferson wrote home from France as follows: "Of all the gifts of heaven to man the olive tree is next to the most precious, if it be not the most precious. Perhaps it may claim a preference even to bread, because there is such an infinitude of vegetables which the oil renders a proper and comfortable nourishment. In passing the Alps at the Col de Tende, where they are mere masses of rocks, wherever there happens to be a little soil there are olive trees and a village supported by them. Take away these trees and the same ground in corn would not support a single family. A pound of oil is equal to many pounds of flesh, by the quantity of flesh it will prepare and render fit and comfortable food. Without this tree the country of Provence and the territory of Genoa would not support one-half, perhaps not one-third, their present inhabitants. The nature of the soil is of little consequence if it be dry. The trees are planted fifteen to twenty feet apart and will yield, when tolerably good, fifteen or twenty pounds of oil yearly, one with another. There are trees which yield much more. This is an article the consumption of which will always keep pace with its production. Raise it and it begets its own demand. Cover the Southern States with it and every man will become a consumer of oil within whose reach it can be brought in point of price. Having been myself an eye witness to the blessings which this tree sheds on the poor, I never had my wishes so kindled for the introduction of an article of new culture into our own country."

Not Realized at the South, but Prophetic of California.—Owing to an ungenial climate, the olive did not get a foothold in the South, and Jefferson's desire was not realized. But in California the result has been different; trees planted more than a hundred years ago by the Mission fathers are yet in bearing condition, and lately olive culture has become a subject of general interest throughout the State. Consul Mathews, in a report on the olive to our Government, says: "The great value and importance of the olive tree is that it will thrive and prosper in soils where nothing else of value would grow. Those dry soils of arid aspect in many parts of California are the genuine lands for raising the most productive olive orchards, worth in due time and at no distant period millions of dollars." The prospective value of this industry to California is more fully realized when we consider the importance of the olive crop to the people of the orange growing regions abroad. A late consular report puts the average annual production of olive oil in Italy at 90,000,000 of gallons, which at $1.50 per gallon—not much more than one-third the price of California olive oil—amounts to $135,000,000, which is more than the value of the annual wheat export of the United States. The total value of the crops of California for 1895, including fruits, has been estimated at about $72,000,000, or $9,000,000 more than one-half the value of the Italian olive crop.

Gold and Olives.—The world's gold production of 1895 was less than two hundred million dollars. That of the United States fifty millions, while California's output was fifteen millions, as against the Italian olive oil crop of one hundred and thirty-five millions, to say nothing of her output of pickled olives; thus we see by comparison, what the olive crop means to Italy alone, and what possibilities are within our reach in the line of olive culture. The importation of alleged olive oil for table use in 1895, as given by the United States Treasury reports, were 776,900 gallons, duty 35 cents per gallon, and 329,889 gallons for mechanical and manufacturing purposes, unfit for table use, free of duty. The value of imported pickled olives for 1895, was $325,352, present duty 20 per cent. I use the term alleged olive oil, because imported olive oil is known to be basely adulterated. William L. Welsh, Esq., our Consul at Florence in 1884, reported to the Department of State that no pure olive oil was exported from Italy; that the liquid exported was composed of 25 to 50 per cent cottonseed oil. It is conceded that the foreign olive, as it is put up for our market, is immature and without nutriment, simply an indigestible condiment, as is the cucumber pickle, while our ripe California olive, as we find it in the market, is a nutritious food. According to an analysis made at the Experiment Station at Berkeley, California, it was found to contain as much nutriment as roast beef, pound for pound. The purity of California olive oil cannot be denied when found in the packages of the producers. The American public needs to be educated on the olive question, and the fact of the impurity of foreign oil and the inferiority of imported pickled olives to those of our own production, cannot be too often repeated.

Olive Methods in California.—A glance at some of the natural features of the olive may be of interest. Something over a dozen years ago the Experiment Station at Berkeley commenced the propagation of olive trees by means of small cuttings not much larger than a match. This new method has been adopted by most nurserymen of the State and it enables them to propagate and sell trees at a lower price than those produced by the old method of large cuttings, and has done much to increase olive planting, especially in the southern portion of the State.

The question of how to trim olive trees before planting in the orchard, and afterward, has been a subject of considerable discussion. The trimming off all the side branches and cutting off the top before shipment from the nursery, leaving the trees one or two feet high, offers several substantial advantages. By doing this no stakes will be needed; the removal of the foliage will diminish the loss in transplanting; they can be packed in closed boxes, which cannot be done if the foliage is left on, as the trees would heat and be injured; the freight is less when entirely boxed, as it comes in a lower class, besides, if trimmed before shipment, the trees weigh less; and, as they can be more securely packed in closed boxes, they will arrive at destination in better condition.

Shaping the Tree.—Cutting off the trees to one or two feet high before planting does not necessitate forming the head at that height unless it is so desired. Sprouts from the roots should be destroyed as soon as they appear, but all the side growth on the stem should be left the first year, as it causes the tree to become stocky, and shields the stem from the sun; afterward it may be shortened in and taken off gradually from year to year until the desired height of trunk is attained, which should be as short as possible consistent with convenient tillage under the tree.

Annual Pruning.—The trees should be trimmed an-

nually, and if this is done a shears and pruning knife will be all the tools required. If done only every two or more years, large limbs will have to be removed and much bearing wood sacrificed; besides, the limbs will become long and bare, with no bearing wood except at the ends, a very undesirable condition, the object aimed at being a low tree with open head and bearing wood evenly distributed along the large limbs, as well as at the ends. Happily, the nature of the olive tree is such that if a stub half an inch long is left where a branch has been cut off from a limb new growth will start, from which bearing wood may be secured. After a little branch has borne twice its fruiting capacity is about exhausted and it should be removed. The annual pruning consists mainly in cutting back the top and side branches of the current season's growth—if needed—cutting out the dead and enfeebled branches which have borne one or more crops, suppressing those strong and upright unfruitful shoots which sometimes appear, and taking care that the tree does not become so thick inside as to prevent the free admission of the rays of the sun. The olive naturally becomes a tall tree in a few years. It is expensive to gather the fruit when high, hence the importance of a low head, so that all the fruit may be gathered by the aid of a step ladder. This may be accomplished by close planting, say 20 feet apart, and by persistently top pruning the trees. It should be remembered that the fruit is borne on the wood of the previous sea son's growth, and in the annual shortening a plentiful supply of that growth should be left to bear the crop of the ensuing season. No doubt the best time for the annual pruning is right after the January freezes are over. I have reason to believe that the removal of large limbs in March or later in the spring is a shock to the tree, lowering its vitality and rendering it less capable of setting and holding its fruit.

Some summer pruning may be needed, especially in young orchards, in the way of heading back extra vigorous limbs. The shortening of the new growth during summer of those extra strong growing varieties like the Nevadillo may be beneficial in checking a too rapid growth, thus promoting the formation of fruit and insuring a larger crop the ensuing year. I regard the proper pruning of the olive tree not a difficult operation, but the neglect of it at the right time is no doubt one of the chief causes of unproductiveness when that occurs.

Varieties of the Olive.—The question, "Which is the best olive to plant?" is often asked but is not easily answered; all the good qualities are not possessed by any one variety that I am acquainted with; by planting a number of varieties a good combination may be secured besides the benefit of cross-pollination. Again individual opinion differs, for instance, a pioneer grower informs me that he has only the Mission and is satisfied with it. Another grower had a Mission orchard which he changed to other varieties by grafting. I know of an orchard of Redding Picholine trees whose owner has been so successful in making oil and selling it that he does not want a change of variety while many orchards of that variety are being grafted with other kinds. There are probably 100 varieties of olives in propagation in the various nurseries of the State comprising the choicest European sorts, of these the Mission, Nevadillo, Manzanillo, Columella, Rubra, Pendulina, Oblonga and Uvaria are the best known and have been most largely planted. There are a number of varieties which are beginning to attract a good deal of attention owing to the extremely high percentage of oil of excellent quality which they contain, namely: Razzo, Correggiolo, Morajolo, Grossaio, Frantoio, Marchialo and Palazzriolo. The following varieties are noted on account of their large size: Sevillano, True Picholine, True Regalis, Polymorpha, Macrocarpa, Pleurre de Grass, Ascolana, Oblitza, Santa Caterina, St. Agostine and Manzanillo—the Sevillano being the largest one named.

There are a couple of varieties which have lately come into bearing which are nearly or quite devoid of bitterness; these will be valued for drying and pickling. Their names being unknown, they are called Sweet Olives. As to which varieties are best for oil and which best for pickling, I would say that the medium to small varieties offer less difficulty in expressing the oil and generally contain a larger percentage of it than the larger varieties, while the larger fruit, as a pickle, is more attractive to some; but the more oil the fruit contains the richer and more delicious the pickle, and from this fact the varieties which can not be classed as large will always be in demand as pickles on account of their superior quality, though the large fruit will attract those customers who "eat with their eyes." The foreign packers cater to this class to that extent that about all the good there is in the olives they send here is in their looks.

Before closing, I wish to invite the attention of those interested in olive culture to several publications on the subject, all of which may be had free upon application, namely: Bulletin No. 104 and the Report of the Experiment Stations of the University of California for the year 1894–5, Berkeley; the publications of the State Board of Horticulture on the olive, Sacramento, and the Olive Growers' Handbook, issued by myself at Pomona.

The California Lemon.

The California lemon constitutes one of our greatest horticultural hopes and expectations, and it is encouraging to see that it is attracting much attention from fruit experts on the other side, for it is there that our product must wage its warfare with its Mediterranean competitors. The *Fruitman's Guide*, an enterprising trade journal of New York, has been investigating our lemon resources and places before its Eastern readers statements which will be valuable in extending knowledge of our fruit. The facts are also very interesting here, and we shall set them forth.

What Our Lemon Has Before It.—The widespread interest aroused by the facts and figures presented in the *Guide* recently, relative to California lemons, has led us to secure further confirmation. The letters printed below, received from various sections in California, will be read with deep interest by the trade. The statements show that this year's crop will be lighter than was last year's, on account of the unfavorable weather. The extent of lemon cultivation, and the probable great quantities in the near future, are clearly substantiated by the writers of the letters. The amount of increase for each year is largely a matter of surmise on the part of the correspondents, since it is a fact that a lemon tree, after commencing to bear at three years of age, increases its production very materially. It is an open question if the crop of 1900 will not exceed 600,000 boxes. The problems that are at present difficult to solve for the lemon producers are the proper curing of the lemons and the production of fruit that will carry to distant markets and keep well after arrival. The Sicily lemon in these respects is a marvelous creation. We all know that there are in market, at the present time, lemons that were cut in Messina in November last, and we also know that there are shipments of lemons now afloat that can be counted upon as being absolutely sound in November next. Under such circumstances, California growers, to make their crop equally desirable and marketable with the crop of Sicily, will have to produce lemons having these same keeping qualities.

Lemons at North Ontario.—We have about 1000 acres planted to lemons in this locality, mostly not yet in bearing. The principal varieties are Lisbon and Eureka, also a good many Villa Franca, which are practically the same as the Eureka. The Lisbon is the handsomest and best-keeping lemon, but the Eureka is the most profitable, because it matures a larger proportion of the crop in summer. In percentage of acid and freedom from seeds, both varieties are superior to the foreign lemon. The keeping qualities vary with the character of the season, as in Europe. Our output for the season ending December 1st will be about 100 carloads. We are now shipping three to four cars per week, but have not to exceed a dozen or two cars for the remainder of the season.

We have no desire to enter the Atlantic market until our crop is larger, as our lemons are better known and bring more money from Chicago westward. It is estimated that we have 10,000 acres planted in southern California, mostly not yet in bearing. We have 200 members in our Ontario Lemon Growers' Exchange and control, practically, all the lemons in this vicinity.—CHARLES D. ADAMS.

Another Statement From Ontario.—We have this season shipped some 100 cars of lemons and we will undoubtedly increase the amount regularly each year until we ship in 1900 some 500 cars. Our fruit has for the most part been taken by markets close by, very little of it going as far East as Chicago; but we realize the fact that it is only a question of time when we shall occupy all the markets of the United States. It is my opinion that we shall in California reach shipments in the aggregate of 2000 cars (600,000 boxes) by the year 1900, and that another decade will show sufficient lemons in California to supply all the trade of the United States. Now as to the time when we ship the most fruit, I think that we are in a good deal the same position as the Sicily people. Our greatest picking comes in January, February, March and April, although we get more or less fruit right along through the year. The greatest number of cars we ever shipped was in September, last year, when we got off a car each day for twenty-one consecutive days. So far this year we have averaged about ten cars per month, having shipped in January six cars, February twelve, March fifteen, April thirteen, May eleven, June ten, July eight and August to date seven. We will have lighter shipments for a month or two now, when they will begin to come up again. The fall crop is much lighter than last year, but in an ordinary season we will have a good many lemons to go forward in August, September and October.—B. A. WOODFORD.

Highland Lemons.—I think our locality will yield about twenty-three or twenty-four cars, an increase of about three cars over last year. This is conjecture, as it is difficult to estimate young groves and there was more fruit dropped than usual in the spring.

Regarding the time of maturing of our crop, can perhaps do no better than to give you the pickings from one hundred and eighty, seven-year old Lisbon trees, of which I have kept a record. The clip was as follows:

	1995, Pounds.	*1896, Pounds.*
January	12,245	6,129
February	23,184	17,539
March	6,859	4,703
April	3,340	4,273
May	....	4,649
June	662	1,170

	1894, Pounds.	*1895, Pounds.*	*1896, Pounds.*
July	....	....	167
August	....	200	....
September	....	....	....
October	....	....	....
November	550	210	....
December	1,388	3,664	....

You will notice from the above that from this small number of trees fruit was clipped every month except September and October. This year there will probably be a good clip during these months, and taking all the orchards in a community there will be something for every month probably from the Lisbons with the heaviest picking from November to May. The lemons clipped from October 1 to January 1 are generally the finest in quality, and can be kept until later the following summer than those clipped from January 1 to May 1. The Eureka and Villa Franca lemons have a heavier summer crop and are more to be depended on for late summer markets. I have no data at hand from which I can give accurate figures, as above, but I see no difficulty in securing fruit in plenty from here at any season, soon.

The Lisbon trees mentioned above are not extra trees, as they had had poor care until the past three years. Other trees, same age, in adjoining groves give better yields.

Great diversity of opinion exists as to the proper place to cure lemons. The fruit clipped October 1 to January 1 can readily be kept until July or August following, while that clipped January 1 to May 1 had generally best be used prior to that time, and that clipped in summer can be quickly cured for use during late summer and fall.

The question seems to be: "Where had this curing process better be allowed to occur?" Most of the fruit has been cured here, but many think it could better be done in the East, near the market where the fruit is likely to be consumed.

Orange Lemons.—We have in the neighborhood of seventy acres planted to lemons in this district, or about 7000 trees, mostly Lisbon and Eureka; very few of any other variety. The crop will be very short this season, and do not think there will be over eight carloads to market between now and the 1st of next January, which is very unfortunate.—C. G. MCKINLEY.

South Riverside Lemons.—Our colony has about 1000 acres planted to lemons, averaging about eighty trees to the acre—about 300 acres four to six years old, 500 acres two to four years and 200 acres one to two years old. The varieties are: Lisbon, Villa Franca and Eureka, about equal proportions. About twelve to fifteen carloads will be our crop to January 1st next. Next year we estimate our crop, if no accidents occur to prevent, at about fifty carloads, and will increase three-fold yearly for the next three or four years. We feel that next year southern California lemons will be freely offered in Eastern markets each month in the year. There are 10,000 acres in lemons in southern California, or 800,000 trees. In two or three years more they will produce an average of three boxes to the tree yearly, or 2,400,000 boxes. An eight to ten year tree will produce five and six boxes annually.—FRANK SCOVILLE.

Glendora Lemons.—It would be almost impossible for me to give you any definite figures of anything except our own district of Azusa, Caving, Glendora and San Dimas. In our association there are about 600 acres of lemons; outside perhaps 400. The bulk of the boxes do not average over four or five years in age. For more general and definite figures we suggest that you apply to the various county assessors. Their deputies are charged with the duty of ascertaining the acreage and age of all fruit trees. The varieties are almost exclusively Eureka, Villa Franca and Lisbon. The most of the lemons of southern California will go East through associations such as this. They are being formed in most localities. Our output from now to January 1st will be small on account of so many spring buds being blighted.—A. B. SMITH.

A Paying Orchard.

E. Toup of Dinuba, Cal., writes as follows to the Traver *Advocate:*

Thinking it would be of interest to the people in the 76 Country, and possibly the country at large, I wish to state a few facts concerning my crop of apricots. I have 425 trees four years old last spring. I sold to Griffin & Skelley Co. of Fresno 9 tons, 606 pounds at 6 cents per pound. I kept two sweat

boxes and sold $10 worth green. This would have made 9½ tons. I will ask the question, Can any one in the country or State show a greater yield from trees the same age?

I have the Blenheim variety. The orchard is on adobe land. I have always irrigated by running water in a furrow between tne rows. I have a wasteway at the lower end of the orchard. By running fresh water through it gives the trees a fresh drink and seems to irrigate them more than sub-irrigation. My mode of pruning is to begin as soon as the fruit is picked. I do not believe in cutting a tree all to pieces. Several have told me, "You do not cut your trees enough." I answer by saying I prune for fruit. As apricots are inclined to grow long twigs, it seems to me the proper way to prune is not to cut all of them off at one pruning, but such a part as will keep the tree in good shape. This will not injure the vitality of the tree, and will leave plenty to cut off the next year. The idea of pruning enough in one year for three or four is a mistake. Such pruning has killed many a tree. I only speak of pruning young trees, and from experience. My trees are in a healthy condition and forming plenty of fruit buds for another year.

Florida Orange Trees.

Rev. C. J. K. Jones of Louisville, Ky., owner of an orange grove in Florida and an expert pomologist, writes to the *Courier-Journal* an account of recent observations on the restoration of Florida orange trees to bearing state. We take these paragraphs, which will interest California growers:

My trip and its field of observation, as relates to the orange, was confined mainly to portions of Volusia county, especially in and about De Land, where my grove is located. Cursory views of orange groves were had in the ride from Palatka to De Land, over the line of the J., T. and K. W. railway.

My first observations of the groves along the line of the above-named railway induced a feeling of depression. The trees had not sprouted as I had hoped. In a number of cases it was quite apparent that this was due either to no work at all or to work commenced only the past spring. Then, too, where I knew the trees were worked last year there was a deficiency of development which was noticeable, both as to size and quantity of growth and also in the general indications of vigor. Evidently the trees had not been fertilized sufficiently or properly.

Around De Land the most progressive growers have an excellent showing for their past year's work. Next year there probably will be from this place the renewal of shipments of oranges—a few hundred boxes. It is difficult to say in exact terms just what is the condition of the groves. The well-cared-for, in fertilizer and culture, are doing finely. They have made a large new growth. Since June 1st rains have been timely and abundant; they still continue. The temperature has been abnormally high. Insect and fungi enemies of the trees are not so active as last year.

The trees which have received half-hearted treatment are doing as well as their opportunities will permit. The neglected trees are making an effort to put forth growth, but the sight thereof is sad enough! North of a line run from Tampa on the west coast to Daytona on the east coast I am persuaded that one-half of all the orange groves frozen down in February, 1895, will ultimately be abandoned. Not that this is made necessary by the situation or probabilities of the climate, but because the majority of the owners are so dispirited and at a loss, for various reasons, what they ought to or can do. My personal conviction is that the grove owner who can and will bring out his grove in the promptest manner will reap a rich reward of satisfaction and money.

Cider Vinegar Making.

There are large supplies of waste apples just at present in the orchard and in many cases plenty of spare time on the grower's hands. Vinegar making is therefore an interesting proposition, though we must caution readers against the idea that it can be profitably indulged in on a commercial basis to an unlimited extent because, we have vast vinegar resources in connection with our wine industry and we have only a small consuming population. But vinegar for home use is a dollar-saving proposition for nearly all who have apples going to waste. A correspondent of the *Country Gentleman* discusses vinegar making on these lines.

Working by the Barrel.—In making cider vinegar the first important thing is to have good barrels—iron-hooped and well painted for exposure to the sun as much as possible during the warm autumn days in order to convert the cider they contain into vinegar the more rapidly. If one goes into the business extensively, however, I would advise having a vinegar house that can be warmed artificially. This would dispense with the work of covering and uncovering the barrels while standing out until cold weather arrived. Never put cider in the cellar to obtain good vinegar. The sour cider may be stored there during the winter but when spring comes it will be necessary to expose it again to the sun and circulation of air.

The barrels obtained, one should next get good cider at the cider mill, draw it home, allow it to settle and then run off the clear liquid. This done, free the barrels of what sediment they contain, thoroughly rinse out, and put back the clear cider. The barrels now will not be quite full, but usually as much so as desirable. Now cover the bungholes with mosquito netting or other material that will keep out flies. The bungs ought not to be put in, except temporarily, for at least a year, and when the barrels are in a position which does not require their being moved very often it is advisable to keep the bungs open for a much longer period; cider vinegar will generally grow better if exposed to the air until two or three years of age.

The loss through leakage and evaporation is usually from one-third to one-fourth of the whole quantity; but, as an offset, pure cider vinegar two or three years old can often be diluted with rainwater enough to equal the loss and yet be of sufficient strength to meet all requirements. Indeed, dilution with rain water is generally necessary to some degree, as old vinegar is often too acid to be agreeable, while cider in the first stages of making is frequently a long time in turning to the acid state from an excess of saccharine matter in it.

Hastening Fermentation.—If one is desirous of hasthe process of making, it may be effected by occasionally turning the cider out of one barrel into another, thus exposing it more fully to the air, and by adding a gallon of strong vinegar or a little "mother" to each barrel. There are other methods by which the process may be hastened still more, such as trickling it through beech chips or shavings; but these are hardly to be recommended, for those who are content to wait on the natural process rarely fail to find themselves amply repaid through the higher value placed on their products by customers.

In Small Quantities.—Many people who live in city suburbs, country towns and the country itself, have no cider mills and few apples, and rarely care to expend much of their hard-earned dimes in procuring vinegar, especially when the article may possess objectionable qualities. I advise such to try the following method: Put a quantity of apples in a tub and mash them with a pounder. Place the pomace in a half-barrel with holes in the bottom, and over this put another tub as a receiver, with a follower on the pomace, to be pressed down by a lever or stationary weights set on it, and so extract the cider, which should be stored in a keg, left open in a warm place, until the vinegar is made. After this the supply can be kept up by now and then mashing some apples and putting them in a stone jar covered with water, into which apple parings can be thrown, as well as any soured fruits or berries, the water of which, if stored in a warm place and kept covered, will soon turn sour, when it can be employed for replenishing the vinegar keg.

From my experience I consider the garret the best place in which to keep the vinegar keg. The warm, sultry air near the roof will soon turn the cider into vinegar.

ARBORICULTURE.

Walnut Growing at the South.

Last week we gave the walnut experience of Mr. Coffman of Rivera. Naturally Fullerton Institute drew out much on a culture in which the region so notably excels and there was another essay by W. M. McFadden which will be read with interest.

Essential to Success.—To be successful as a walnut grower several things must be taken into consideration.

First, and most important must be a rich deep soil.

Second, find a proper location.

Third, where an abundance of water can be had for irrigation.

We hear occasionally that a fungus disease or some other trouble has attacked the walnut trees. I have made this somewhat of a study and my investigations have convinced me that where there appears to be some ailment it usually occurs where the roots reach either water, alkali soil, coarse sand or cannot penetrate the soil on account of hardpan or tough soil. Therefore to make a success, as I said before, get a deep loose rich soil with surface water not nearer than 12 or 15 feet, but with plenty of water for irrigation. The location should be within the influence of the coast breeze, as walnuts do not like too hot nor too cold weather. From this I conclude that the area of walnut culture in California is limited, confined to a small part of the counties of Santa Barbara, Ventura, Los Angeles and Orange.

Soil and Culture.—The nut trees can be grown on damp soil and for a few years on land underlaid with gravel and sand, also can be grown fairly well for a few years without irrigation, but to reap good crops from healthy trees for a period of years, all the above unfavorable conditions must be avoided.

The conditions for success must be good deep soil, on the coast side of the hills or mountains, free from alkali, not too near surface water and with abundance of water for irrigation. Having secured the proper location and satisfactory conditions, then plant your trees not nearer than 50 feet apart. Do not raise crops between the trees while young as such crops rarely ever pay and the damage to your trees is considerable as well as a severe drain upon the fertility of the soil. The soft shell is the most popular; it comes into bearing sooner, yields well and the demand for the nuts is on the increase. A few years ago 1 cent a pound difference was made between hard and soft shell, this year 1½ cents will be the rule, with perhaps 2 cents in the future. I would therefore recommend good healthy soft shell stock, would select trees grown in good walnut land to escape black knot and other diseases that are likely to be found on trees from gravelly soil. The sooner a tree gets size the sooner it pays, hence I would force its growth during its first years by at least two good annual irrigations, thoroughly soaking the ground and then keeping it well cultivated by plowing once and thoroughly cultivate, not permitting the ground to get weedy or hard. Always cultivate after each irrigation both ways, not less than 6 or 7 inches deep, and keep the ground well stirred all the time.

Pruning.—There is a great difference of opinion in regard to pruning. The old style of cutting off every limb as high as a man can reach is now out of date. And the new style which some of our walnut growers have adopted of not pruning at all, but leaving the lower limbs rest or lie on the ground will never come into vogue. But a good medium of starting out the limbs from 2 to 4 feet from the ground and have them start from the trunks on all sides at about an angle of 45°. I think it is the best plan to keep all new branches or water sprouts that are inclined to hang down well cut off so as to cultivate close to the trees.

Always have your pruning done during December; then no bleeding occurs and the wounds heal over with the next year's growth. Do not daub oil or paint on the cuts. When the trees come into full bearing, say 200 pounds to each tree, they require plenty of water to keep them growing, and to fill out the nuts, one good irrigation in August that may cost 5 cents a tree, will make many extra pounds of better nuts. I have found that it is the poorest kind of economy to economize on irrigation. The tap or wood roots run deep and must have moisture to make the tree grow and the surface or fibrous rootlets are those that make and feed the nuts, so if the deep and thorough irrigation which I speak of is not done the tree cannot grow, and if the surface is not kept moist the nuts will be light, partially filled and many of them hollow.

Co-operative Walnut Selling.—The principal nut growing localities are Santa Barbara, Ventura, Los Angeles and Orange counties, raising about 300 carloads of ten tons. The California nuts are superior to foreign nuts, meet with much favor with consumers and are in demand by the dealer. The custom heretofore and even to a large extent this year is to put the crop in brokers' hands to find a market, paying a brokerage of about $75 a car. When 150 are so placed the brokers can fix the price for all the crop, which they do, often at ½ to 1 cent per pound lower than the market will stand, therefore losing thousands of dollars to the growers annually, while large dealers East are clamoring for the chance of dealing directly with the growers, offering top notch prices, spot cash, without brokerage. As the area of the nuts is limited the crop is easily controlled.

It would be better for all the growers to get together before any contracts are signed, tieing up the crops, and agree together on prices, sell direct to dealers East without the intervention of the middleman or broker. Hundreds of letters are received this year from all parts of the country wanting to buy nuts offering high prices if the growers will protect the dealers from lower prices of the brokers. The custom now in vogue is for the largest association of growers who control the largest quantity of nuts to fix the prices, say 150 cars, and that practically fixes the price for the balance of the other 150 cars without the grower having a word to say about it—this is not just to each other and should be righted.

Discussion.—Speaking as to the means of securing the best results in planting walnuts, Mr. McDermont said that he got the best results from planting the nut in permanent place and raising the trees from the seed. It took a little longer, but it repaid the horticulturist in the better tree. The consensus of opinion was that plenty of irrigation was necessary to the growth and bearing of walnut trees, but the Anaheim *Gazette* says that those who have seen John Hannah's orchard at Miraflores, which was never irrigated, and which compares favorably with any orchard in the county, were sorry that gentleman was not present to take a hand in the discussion.

THE FIELD.

Killing Johnson Grass.

California farmers and fruit growers who are struggling with Johnson grass which has got into the wrong place will be interested in a group of descriptions, in which Texas farmers tell how they operate with this most aggressive intruder upon cultivated lands. The Texas *Farm and Ranch* opens the discussion by remarking that the time of the year to commence killing Johnson grass has come. Up to this time in the summer months all your attempts to kill it have been rewarded by rapid growth, but now the summer growth is about over, and the sap has or will soon descend to the roots, and the work of killing the grass is an easy matter as soon as you can run the plow deep enough. The breaking up of the ground is not the only advantage, but the thorough plowing benefits the soil, and the crops you can grow following the breaking will earn you many times the cost of your labor.

One Method.—Pat O'Donnell, who owns a large tract of land in Williamson county, Texas, says he had 100 acres of very choice land to go entirely to Johnson grass. So thick was it that cultivation of crops in this field was abandoned. He permitted the grass to grow, and when it had reached the proper height just before maturing cut it for hay. Selecting the very driest and hottest period of the summer months last year, he doubled up his plow-teams and uprooted the sod, plowing deeply and leaving the roots of the grass exposed to the hot, dry sun, which killed them. He had the same land planted in corn and cotton this season, and out of the entire 100 acres, he says, a hatful of Johnson grass roots can not be found.

A Contract Taken.—Capt. W. C. Dibrell, of Coleman, had a valuable block overrun with Johnson grass. A neighbor asked him why he did not get rid of it. He replied that he would pay a man's own price to destroy it for him. The neighbor agreed to kill it out, and put his little boys to cutting it off by hoes, close to the ground. In a few weeks it was about 6 inches high, and the shaving was renewed. It came up again, less thrifty, and again it was hoed to the ground as before, and it has never made its appearance since. On examination it was found the roots were hollow, soft and completely exhausted. Another says: "It is the close cultivation with the plow and hoe in the months of July, August and September that kills it."

A More Elaborate Plan.—The writer in the *Farm and Ranch* then adds his own plan: As soon as you can after August 1st, take a good team of horses with a two-horse plow, cutting as deep as you can, and leave the surface in ridges. A month after, or less, go over the field with a straight-toothed harrow, which will draw to the surface the roots not already killed by the sun. Do this across the furrows. In October or November go over the ground the other way, ploughing deeply, and sow a crop of fall grain. In the spring cut the crop early for hay; break again and sow heavily a crop of cow peas, and in the fall cut them for hay or turn under for fertilizing your land. The secret of this heavy seeding of cow pease is that they shade the surface of the ground, and should there be a sprout of Johnson grass not killed, the shading of the ground would do it, as this grass is sub-tropical and must have sunlight to grow. If you have followed this plan, you will find your land never had better cultivation, the benefit of which will be seen for years. You have a splendid crop of hay for spring and summer food, and the crop of peas also. You have two good crops of hay within one year, and leave your land ready for any crop you may wish. This is the most effective plan to kill Johnson grass, and at the same time give you more earnings in the two crops than cost of killing it.

Not Cow Peas.—It must be added that the prescription of cow peas as a smother crop will not go in California. There are very few places in California where cow peas will grow satisfactorily—much less make a mat which will be any inconvenience to the Johnson grass, and the places where cow peas grow well are not usually the ones which are bothered with Johnson grass. Alfalfa can be used on open land to fight with Johnson grass, and fed together they are desirable, but our chief trouble with Johnson grass comes in orchards and vineyards where alfalfa cannot be tolerated. In all such places probably the California method is better than anything from Texas.

The California Method.—Very expensive work has been undertaken in the eradication of Johnson grass. Some have extirpated it by actually digging out, hauling away and burning every particle of root which could be found from surface to hardpan, and afterwards watching for and repressing it at each subsequent outcropping. It is doubtful if such heroic treatment is necessary, providing one will undertake systematically and unremittingly a surface treatment. If the roots are thrown up to sun and air at the time of the year when the soil and air are driest, and the heat most intense, the furrows being left standing on edge as much as possible, the roots can be gathered by harrowing after drying out, and burned. After disposing in this way of as many as possible, the aftergrowth can be repressed by working the ground over about once a week with a cultivator with flat, sharp teeth. This should be done at stated intervals, whether the grass makes much show or not. In fact, the success of the method depends upon never allowing the plant a glimpse at the light. If it be allowed to make a top growth before using the cultivator, then each cultivation will but enable it to more quickly recover the ground by distributing the roots; but cutting it continually below the surface will finally exhaust and kill out the roots. This is the method which gives best results in the extirpation of the wild morning-glory, and no aerial plant can withstand such treatment. It must, however, be pursued for a period long enough to accomplish the results, and not taken up spasmodically or stopped too soon. On drier, heavier soils the plant can, in many cases no doubt, be killed out by very little treatment after the dry plowing first mentioned.

Mixed Farming.

Many Californians are becoming convinced that mixed farming should be more widely practiced in this State. Certainly those who have done best during the recent hard times are those who have used plenty of work and water and have supplied their own needs and had small lots of many kinds to sell. The RURAL has always advocated this policy, so far as it can be followed under the conditions surrounding each man's effort. The general policy advocated everywhere in the world is applicable here: the methods and the limits must be learned by local observation and experience. Waldo F. Brown writes to the Ohio *Farmer* as follows:

Better Than Specialty Farming.—While I know that occasionally a man makes more money from special farming than is likely to be made by the farmer who grows a little of a good many things, I have always practiced and recommended the latter plan, and as I look over my account book for the past seventeen years, during which time I have kept a careful account of all the sales of farm products, I see that following this plan my sales have not fluctuated greatly and I doubt if many specialists can show as uniform an income. The majority of the farmers of this grain growing part of the State depend almost exclusively on wheat and hogs for their income, and this year not one farmer in four in this township will have any wheat to sell, and at least one-fourth of them must buy seed for wheat and bread, and hogs for two or three months have sold at $3 a hundred, and the outlook for these farmers is far from pleasant.

Home Supplies.—Another point in favor of mixed farming is that it furnishes a much larger part of the living of the family and gives a more regular income through the year, enabling the farmer to buy for cash instead of running accounts.

Stock Sales.—For years there has not been a month in which I have not sold something from my farm. My monthly sales so far for 1896 average over $50, the aggregate being $322.25 and ten days of June yet to hear from. Of this amount $180 was for stock, as I sold a pair of unbroken mules, six fat pigs and four brood sows. This much was not the product of this year alone, but all stock must be credited to the farm when sold, and in the long run things even up all right, for there are always stock, grain and vegetables carried over to the year following that in which they are produced. Over $50 of the above was received for eggs, for we keep 100 hens and take such care of them that they lay an abundance of eggs. The balance is made of small items—$12 for strawberries, about $5 for surplus garden vegetables, $10 for sweet potato plants, about twice that for sweet potatoes, a few beans, a little cloverseed, etc.

Field Crops.—Our prospects for the year are good, although wheat is a total failure and the land was all plowed up and put in corn and oats. The latter are now in full head and begin to show signs of ripening, and bid fair to yield 40 to 50 bushels to the acre. We have thirty acres of corn, all planted in April, and looking unusually well, five acres of sweet potatoes, which are a perfect stand and growing rapidly, a few acres of potatoes better than I have grown for ten years, an acre and a half of nutmeg melons, only a moderate stand; but we have set 7000 cabbage plants between the rows and expect to more than make up any deficiency of melons by the cabbage. In 1894 our plot of melons gave us $55, but we sold $50 worth of cabbage from the same ground. We have a third of an acre in blackberries, which are unusually full and will yield a large crop, but the price will probably be low. We have two acres of navy beans, two sowed in cow peas as an experiment; and as we shall have no hay of any kind this year, we have two acres in sorghum and an experimental plot of popcorn, and expect to get our stock through the winter nicely without hay. Thirty acres of my farm is in bluegrass, and the remaining sixty is in one enclosure and is never pastured, so that our expense for keeping up fences is small and we have nothing in the way as we go to and from our crops and can plow long lands and rows.

Regular Trade.—There is an advantage in following a regular plan in farming until it comes to be generally known that you will have certain products to sell each year. We have permanent customers for our sweet potatoes, melons, eggs, surplus Jersey cows and some other products, and get better prices because we have these articles for sale every year and of good quality. Only two acre lots on my farm are fenced hog-tight, and a hog house 8x12 adjoins each of them, and I keep one sow and raise two litters of pigs each year. Usually this gives me pigs enough for my own meat and from eight to twelve pigs to sell. I sold ten from the spring and fall litters of 1895 for $68, and have now a spring litter of nine on hand.

Poultry.—As I have not a corn farm I do not think it would pay me to keep many horses, and I know that grain fed to poultry pays more than twice as much, and I am increasing my stock of poultry. My hundred hens eat but little, if any, more grain per day than my brood sow, and for the past two months, with one-third of them sitting or caring for broods, have averaged four dozen eggs per day.

For the first time in twenty-five years or more I am keeping ducks. I have but six layers, pure Pekins, and one drake, but they have laid to date 480 eggs, and I have 143 young ducks, 70 of them nearly grown, and 12 hens sitting on ducks' eggs. I am so well pleased with them as egg producers that I propose to keep 100 laying ducks next year.

Small Fruits.—I am not in the berry business, but we always plant liberally for home use and have a surplus to sell. In 1895 we sold a little more than sixty dollars' worth of strawberries and blackberries, about half of each. The drouth of 1895 damaged our strawberries so that this year we sold but $12 worth; but our blackberries will yield much heavier than last year. My rule has always been to begin on a small scale with any new crop, and as we find it pays increase it slowly. My first sweet potato crop to put up for a winter market was about half an acre. We have increased each year since and every year our supply has run out before spring, and this year we have five acres. Last year when Irish potatoes sold at from 20 to 40 cents our entire crops of sweets sold at from 80 cents to $1, the last of the table potatoes, in February, and our seed stock bringing the latter price.

The Farm More Interesting.—I have lost my wheat crop for two successive years; but as some other products have yielded well, or brought good prices, my farm income has averaged about the same as in years when I had good wheat crops. This is the third year that a tenant has worked my farm on shares, and we are both pleased with the arrangement, as it relieves me of a great deal of care and expense for hired help, and the tenant has done better than he did when he worked by the month for me. My net income from the farm is larger than when I paid for the work and got all the crop. I love the farm better each year, and notwithstanding low prices and discouragements I believe that the young man who sticks to the farm and studies his business intelligently has a better chance for permanent success and a pleasant, happy life than the average man in other callings.

A Note on Fertilization.

At the Fullerton Farmers' Institute Mr. E. K. Benchley read the following on fertilization: One of the most important, in fact the most important, question after irrigation, to the farmer and fruit grower, is that of fertilization—as important to them as fuel is to the manufauturer. The sooner they recognize this expense as an absolute necessity towards the cost of production the greater will be their returns.

We feed our animals to make them grow and produce results. In the same way we must feed our orchards if we expect satisfactory and paying results. None I am satisfied will differ with me on this question. What we all wish to know is when and how to feed, so as to gain the most for the money expended and get the greatest benefits. To me, the only and the most satisfactory way, is for us to have small test plots. That is, try different manures and fertilizers on different plots and watch carefully the results. Those proving the most satisfactory are the ones for us to follow. If we find an application of horse manure, mixed with a certain amount of potash, phosphate acid or nitrogen or some other combination, to be the best, then without a doubt this will be the mixture to follow and stick to. I believe it would be a good plan for three or four fruit growers living in the same neighborhood, where the soil and conditions are the same, to have test plots, showing the expenses. In this way results could be had with small cost to each. Again, I say this seems to me the only safe and sure way to find out just what should be used.

In the Farmers' Bulletin No. 21, written by W. H.

Beal, an estimate is made, showing the value of the horse manure of the United States for one year to be $432,000,000; of cattle, $1,007,000,000; of sheep, $90,000,000. There is not enough coin, gold and silver, in the United States, to pay for the manure produced by its cattle in one year. It is safe to say that more than one-half of this manure is lost from waste and improper care. Now, with such a waste as this, how can we expect to succeed? With such figures as these staring us in the face do you not think we should read up and endeavor to save all of this valuable article? Even had I the time, it is unnecessary for me to try and tell you how to save this great fertilizer that the United States produces. Our Government has for years been expending much time and money to tell us just what to do, and now that this is all published and free to all for the asking, we certainly should read up these instructions and follow them. I refer to the Farmers' Bulletin No. 21, and the Year Book of the Department of Agriculture for 1894. Let each farmer and fruit grower send for these works. Study them and be in a position to think and speak for himself on this, the most important subject to them all.

How Shall the Small Farmer Make Both Ends Meet?

By M. M. DEWEY before the Farmers' Institute, Pomona.

In these days of financial unrest and uncertainty, coupled with the hard times and the prevailing low prices of nearly all kinds of farm and orchard products, the above question is an important and vital one. The line between profit and loss with many has been growing narrower and narrower, and with the coming of the year's end has veered to the wrong side of the account. From what I have observed it seems that a great many people have come to this "Land of Sunshine" with the idea that a fat living may be obtained on a small piece of land and with but little thought and labor. Never was man more deluded. While it is true that the reward is sure and success to those who exercise a good degree of common sense, together with honest labor, is certain, to him who lacks the fulfillment of the proper conditions disaster is sure to follow.

How many people there are to-day lamenting the fact of hard times, who are in a measure responsible for the condition they are in! Could not many who own a cow raise what the cow eats instead of paying out their cash? Could not he who owns a few chickens in a large measure produce what they subsist upon instead of running to the feed store for it? Would not a pig eat much that now goes to waste and in turn be eaten by the owner or turned into cash? Would not one or more colonies of bees do much to sweeten life and at the same time help to increase our orchard products by fertilizing the blossoms? In short, let him who has a few acres not think to plant it all to trees and wait for them to grow, while he joins the street corner crowd and talks 16 to 1, but let him leave a corner—a large one—for alfalfa and fodder, corn, pumpkins and beets. All of these can easily be grown by the roadside, in vacant corners or on vacant lots, which are now producing only weeds. By so doing he would to a large extent solve the problem of "How to make ends meet." He would be happier himself, his grocer would smile to see him bring in the fresh eggs and sweet butter to barter for the few really necessary articles in his line, and he himself at the same time would have more self respect and the respect of his neighbors.

To farmers and fruit growers who are looking for chances of doing something to make ends meet, I will say there are many. In this and other towns about there are to-day hundreds of vacant lots, which, with deep plowing after the first, and cultivation after each succeeding winter's rain to save the moisture, would produce without irrigation good crops of Egyptian corn, pumpkins, beets, melons, fodder corn, carrots, potatoes, and other products. What a surprise it would be to wake up some morning and find every vacant lot in town, instead of being a weed patch and eyesore, converted into and utilized as a resource for a livlihood. Are we indifferent to our chances and opportunities? If not, then let us be up and doing, and increase our annual receipts until they shall be larger than our outgoes. The most of us can raise as good, if not better, vegetables as are furnished by John Chinaman, and by so doing save many a nickle and dime which now goes into his money bag and out of circulation. Again I would say, pay as you go. By so doing you will buy only what you need, and will need less than if you bought on credit. Do not purchase until you have the money to pay. Use the old harness a while longer, and wear the coat threadbare unless you can buy new ones. Let us resolve to lay by something, however little, at the end of each year, and do not delay putting the resolution into effect until we are gray headed. Credit is a good thing, rightly used, but many of us abuse it. How many are ruined by its use? Were we to-day as simple in our habits, as economical and frugal as our fathers, the question of "How to make ends meet" would not be as problematical as it now is. The most successful small farmer of the future is the one who shall come nearest to producing the necessities of life. The one-crop farmer I fear will be very much in evidence as a failure. "He who makes a spear of grass grow where nothing has grown is a public benefactor."

THE DAIRY.

Refrigeration vs. Natural Ice.

We recently gave an account of some advice which an Eastern dairyman furnished to a Sacramento dairyman on the introduction of an ice machine. The statement has fortunately drawn from Miss M. D. Eschelman of Fresno a description of her own experience, which brings up an issue between machine and natural ice. Writing to *Hoard's Dairyman*, Miss Eschelman says she looked over ice machines a year ago and decided in favor of natural ice as a means of saving money. She was offered a machine by a San Francisco agent and calculated its cost and use as follows:

Cost of machine	$1,000	
Interest on $1,000 yearly		$ 80 00
Depreciation of machine 10% yearly		100 00
		$180 00
Additional fuel for engine		24 00
Total		$204 00

Having forgotten the cost of ammonia, that item is omitted.

Our fuel costs us $4 per cord for oak wood, and two hours' additional use daily would mean half a cord per month.

We began to use ice on May 4th and have used 9429 pounds to date at $9 per ton—two tons having been put in this morning. Nearly one-third of this is used in the delivery of cream. We also deliver the butter in iced boxes. We freeze daily four gallons of ice cream or frozen fruit for home use. All the water drank is, of course, iced; so there is more than the creamery to take it.

We will use less from this on, as the mornings and evenings are cool. We are running now 2700 pounds of milk daily.

This ice is brought from Truckee and comes directly by Sacramento, 200 miles north of us. We could save $2 or $3 a ton by having a larger ice house and unloading the cars at the ranch. We do not in this climate need to store our butter and cream in cool rooms. It requires a starter to have the cream ready in forty-eight hours to churn. We have had cream hold for three days before sour enough. The intense dryness, no doubt, has somewhat to do with this, as the only time we ever have our cream to push the churning is during the foggy weather in February. If you will excuse a California story, fifteen miles from here on the plains was found the dried up mummy of a man. His clothes had dropped to pieces mostly, but the man was regarded as a curious enough specimen to be stolen from the undertaker's care.

Cheese Making in Hot Weather.

Though we have plenty of hot weather in California, we have very little of the hot moist weather which is so trying to the quality of the milk at the East. We have dry heat, as noted by Miss Eschelman in her letter printed above. And yet it may be useful to know how to modify the cheese making process to meet extreme heat conditions. Mr. T. B. Millar, instructor at Guelph Dairy School, gives the following instruction for making prime cheese in extreme hot weather:

Setting.—Heat the milk gradually to 86° F. and make a rennet test. In very hot weather it is advisable to make the test before the temperature quite reaches the 86°, as it will show how quickly acid is likely to develop. Endeavor to have the milk ripened, so that the curd will be ready to dip with one-quarter of an inch acid in from two and one-half to three hours from the time the rennet is added. Use enough rennet to have perfect coagulation, fit for cutting, in from 30 to 35 minutes. Commence cutting early.

The Acid.—Dip the curd with one-quarter-inch acid, and do not stir much in the sink after dipping. Turn frequently, at the same time piling the curd three or four deep in the sink; then mill when the curd becomes flaky, showing one and one-quarter-inch of acid. Air and mature well before salting.

The Rennet.—In handling overripe milk, set the milk as soon as possible at a lower temperature than usual, at from 80° to 84°; then, as usual, always make a rennet test. In a case of this kind more rennet should be used—from one-half to one ounce extra per 1000 pounds of milk. Commence to cut the curd early, cutting finer than usual, thus enabling you to cook the curd more quickly. A portion of the whey should be drawn off as quickly as possible, and when it can be managed, the curd should be dipped with less acid than usual, and then well stirred before allowing it to mat in the sink. Mill early, or when the curd shows three-quarters of an inch of acid, and try to have the curd in a flaky condition at this stage. Do not be in a hurry to salt a curd of this description, for if it has been milled at the proper time and well stirred, there is no danger of its getting too much acid in the sink.

Aeration.—With tainted milk heat to 88° and air frequently by dipping or pouring, until the milk is ready for setting. If you have a sharp clean-flavored starter, it will be an advantage to use a little extra with milk of this kind. When the curd is heated to 98° draw off a portion of the whey, and, just before the curd is ready for dipping, raise the temperate 2° and stir well. Dip the curd with a small amount of acid, about one-eighth inch, endeavoring to have it in such a condition that it will not require much stirring in the sink, and keep up the temperature to 92° or 94° until the curd is ready for milling. Mill when the curd is in a flaky condition and shows one inch acid. Air by frequent stirring and mature well before salting.

Coloring.—When making colored cheese, pour the coloring into a large dipper of milk taken from the vat, then draw the dipper quickly along under the surface of the milk from one end of the vat to the other, and make sure that it is thoroughly mixed before the rennet is added.

The rennet should be diluted with one gallon of pure water to each vat, and the milk should be well stirred from three to five minutes, according to the condition of the milk, after the rennet has been added. Everything in and about the factory should be kept scrupulously clean.

Getting Rid of the Whey.—Draw off a portion of the whey early, so as to be prepared for the quick development of acid. Dip the curd when it shows from one-eighth to one-quarter-inch acid, and continue to stir by hand until the curd is sufficiently dry before allowing to mat. When matted, cut into convenient strips and turn every 10 or 15 minutes, piling a little deeper each time it is turned, and leaving a space between each column to allow the whey to escape. Mill early, or when the curd becomes flaky and shows from one to one and a quarter-inch acid by the hot iron test; then air well by stirring immediately after milling.

Mature well before salting. In salting, use from 2½ to 2¾ pounds of salt per 1000 pounds of curd. In warm weather endeavor to lower the temperature of the curd as much as possible before putting to press.

Advice to a Sacramento Valley Feeder.

A Red Bluff dairyman who keeps fifty cows, and has available the following feeds—wheat hay, $8 per ton; wheat bran, $14; middlings, $16; whole barley, $15; and ground barley, $16—asks *Hoard's Dairyman* to make him a ration with them. The answer is the following formula:

Formula.	Organic Matter.	Digestible Nutrients.		
		Protein.	Carbo-hydrates.	Fat.
20 lbs. wheat hay	16.28	.74	8.70	.22
11 lbs. bran	9.06	1.39	4.85	.32
Totals	25.34	2.13	13.55	.54

Bran has nearly the same feeding value as middlings, and is worth more, pound for pound, than barley.

Greater Variety Desirable.—While the ration above suggested is theoretically correct as to its nutritive contents, we believe a greater variety will add to its palatableness and therefore insure a better digestion of the food consumed. If oilmeal be procurable at anywhere near reasonable rates, it would, without doubt, pay to substitute one pound of it for two of bran. With wheat hay, we cannot well feed barley, as both are lacking in that very important muscle and milk-forming nutrient—protein. If alfalfa hay could be procured, and eight pounds of it substituted for ten of the wheat hay, we might replace five pounds of bran by the same amount of ground barley (it will not pay to feed the unground). According to the prices given for the feeds named, the first cost of this ration would be somewhat more than for the one first suggested, but the resulting products would show either the wisdom or folly of so doing.

Food Must Be Palatable.—It is very essential that a ration should have palatableness, in that what we most enjoy eating is almost certain to do us the most good. To secure this we must have a variety of foods, well balanced; and if possible, a part of it of a succulent character. Grass, green fodders, roots and silage are the great succulent foods, and one or the other of them are nearly always found on the successful dairyman's farm. Succulent food also has a great laxative and dietetic value that cannot be accounted for by analysis, greater results from feeding it being observed than an analysis would seem to warrant. Oilmeal is a laxative food and is often prescribed with such dry rations as the one above given,

the oilmeal seeming to aid in the digestion of the other foods.

The great thing in feeding, and the key to success in dairying, is the study of the individuality of the several cows and noting the different requirements of each for the best production.

Hay Tea for Calves.

For a number of years we raised ten to twenty-five calves every year, writes E. F. Wetmore to the Ohio *Farmer*. We sold our milk to the cheese factory and had our whey back. This problem of raising *good* calves on whey was a serious one. We always started our calves on new milk till they were three or four weeks old, then gradually diminished the milk and added a little whey, and at the end of a week the whey would be substituted for the milk, and no bad results from the change, as is often the case when the change is made abruptly. But to make up for the loss of the milk we boiled a kettle-ful of "old process oil meal," adding a little of this to each feed. They would thrive nicely on this till hot weather came on, when the whey would get too sour for calves.

This dilemma confronted us several times. At last we decided the whey must go, and we adopted a new system, which proved a success. We made hay tea, by taking an old wash boiler and crowding it full of *sweet* clover hay, then pouring boiling water over it and covering up to steep. When the new milk was taken away from them, at the age of three or four weeks, a little of this tea and also a little of the cooked oil meal was given each calf. By thinning with water the desired amount of drink was obtained. This was increased as they got older, and also a little bran added.

At the start the quantity of oil meal to be used is at the rate of two tablespoonfuls to each calf. At the age of three months the hay tea may be omitted, as the calves will then be old enough to eat plenty of grass, but they should be on good pasture.

The *cooked* oil meal and bran should be given them all summer, by thinning it as a drink with water. It should be *measured*, not guessed at, and each one fed in a pail separately. We wish to emphasize the word *cooked*, for if fed in its raw state it is liable to scour the calves, while if cooked it will not; hence very important. This hay after being steeped is not altogether wasted, for horses and cattle will eat it more greedily than in its dry state, though it is true much of its strength is exhausted.

THE STABLE.

The Care of Harness.

"It is worth while to notice, apart from the matter of comfort, that the amount of work that a horse can do is affected by his harness being kept in good condition. It makes a vast deal of difference whether the harness is kept soft and pliable or hard and rough, whether it fits snugly or not at all. It should be remembered that horses are kept to expand their energy in labor, and it is important that the appliances should allow this energy to be used as economically as possible, which means the least wear and tear of horse flesh." So quotes a correspondent in *Farm and Home*. "Doubtless more horses are permanently injured by ill-fitting harness than many suppose. It is vitally important that the collars of young horses, especially, should fit them well. Also the shape of the hames is a matter of importance. The traces should be watched that they do not irritate and cut the horse's sides. A piece of old rubber hose in an emergency is as good as anything else for this purpose. The next thing is to take care of good harness when you have it. It should be kept in a dry place and not suffered to be pulled down and trampled upon. Usually in the spring, unless oiled the autumn before, the harness is hard and considerably warped from disuse. To put this kind of harness upon a horse before he has become accustomed to work at the beginning of the season seems a little cruel. Such harness should have been carefully oiled at the outset. However, it is never too late to do this, and in most cases the oftener the better. The sweat from the animals and the oily surface of the leather hold fast the particles of dust which come in contact with it, and this makes the harness dry and uncomfortable. Hence it is important that this foreign matter should be well washed off. Before it is thoroughly dry the oil should be applied and worked into the leather as well as possible. Take plenty of time and have the oil warm. It does not matter particularly what kind you use. Neat's foot oil, with some such substance as tallow and a little beeswax to give it a body and lampblack to give it coloring, is often used, and answers well for ordinary harness. After this has been done it should be exposed to the sun for a few days and then rubbed clean. We do not want the oil on the outside of the leather to catch dirt and hairs, but inside, to keep it soft. When harness has been made wet unavoidably it should remain on the horse until partly dry and then oiled. It is not so much trouble to do this when one gets in the way of it. It will be found that this will make the stitching last longer, and in most cases this is where repairing must be begun first. The same may be said in regard to light driving harness. After drying, the dust and dirt should be removed before the harness is put aside. It is even more necessary to keep the harness from dampness. I remember one case occurred where a convenient and desirable place was provided for harness by suspending it on the end of a rope, and, after tying a cloth around it, it was drawn to the roof of the barn, high and dry, away from vermin, etc. Harness thus cared for will look well for a number years, and when the trimmings become tarnished they can be replaced at a small cost."

THE POULTRY YARD.

Feather-Pulling Approved.

Once in a while we get what seems to be very strong support of practices which seem to be as silly as old wives' fables, and we know many readers will be interested in a story told by J. L. Campbell of West Elizabeth, Pa., whom the *Poultry Keeper* looks upon as one of the brightest men in the poultry business.

How the Turkeys Were Saved.—I want to tell a little turkey story with an object at the end of it. We hatched out 22 turkeys this season. Nine were hatched by a hen and 13 by an incubator. The first one out was by the hen. I found it running around on the 25th day, after the eggs had been placed under the hen. More hatched the next day, and eight were out by the 27th day. The other one did not get out until the 29th. The first one in the incubator came out on the night of the 27th day, and all the balance were out by the end of the 28th.

Well, we fed those turkeys curd, stale bread and milk, a very little hard-boiled egg and bread mixed, rice, etc., and fed according to instructions from people who have made a business of raising turkeys, and I count myself a first-class hand to raise them, but they soon began to die (I should have stated that we gave them all to the hen with the large coop, and a dry yard to run out in). The first to die was one the hen hatched, the last one that came out. I punched the feet of the machine turks to see which did the best. When half were dead, a boy came along and said: "Why, you don't know how to raise turkeys; you must pull out the wing feathers if you want them to live." We just laughed at him. Then along came a lady and we told her what the boy had said. "Well," she says, "I raise a flock of turkeys every year, and we also pull out the flight feathers." Well, wife said she would try it. I said "Nonsense, you will only kill them quicker." There were but 11 living then, so she feather-pulled 6, just the long-flight feathers. Now, I am not converted to that theory by any means, and we do not know whether pulling the feathers did any good or not, but two thing I do know—the six pulled ones are all living, and the others are all dead. One thing is certain—if it did not make them live, it did not kill them. There was something else wrong with the turkeys to start with. I think the hens had been either too young or too fat; probably both, but I am now experimenting along that line with Leghorn chicks to see if it will not help them get over the delicate time they always have when a month old on account of feathering too fast. It seems to work better than clipping, which I have always made a practice of doing whenever the wings began to droop. The proper age to pull is one week old. Then they slip out and the chicks don't feel it. He will jump right down and begin eating as hard as ever. Of the six turks left, five have holes in the feet and one has not. That gives the hen one and the incubator five. The hen kept hers too hot; that was proved by the way they hatched. The incubator was kept most all the time at 102°, and they never got hotter than 104°, and that not more than twice, and came out exactly on time. Every one got out without help Two of the hen's had to be helped—the one that died first and one other.

Let Others Try Experiments.—Now, let some one else try the experiment. It must be done while the feathers are tender, else it will hurt. I read an article written by a gentleman who visited the hatcheries in Egypt, and he states that at two weeks old the Egyptian women pluck the chicks bare and grease them. That seems incredible to me, but was claimed to be a fact.

Latest Reports on Pulling Feathers.—The six turks which we pulled have done splendidly. They are now sixty days old, and weigh from two and three-quarters to three pounds each, and I found that they are gaining at the rate of one ounce each day, some a little more than that. I also pulled 100 Brown Leghorns, at one week old, and 50 white ones, and as far as the growth and thriving is concerned it is all that could be desired. They are hardier and heavier and have done better generally than those of the same age not pulled, but a most unlooked-for development has taken place, which has dampened my ardor considerably. The feathers have started out again, and every last one of them is white, some of them only on the tips and some clear white. When I pulled them not a solitary white feather was visible in the 100. Whether this will be a permanent fixture or not I am unable to say, but I fear it will be. Time alone can tell. The whites have grown in again whiter than ever.

Now this result was totally unexpected to me, but, as I stated before, I was merely experimenting. I desire to let all who read my reports know the result as soon as possible. I have always found it a benefit to clip the wings whenever they hung down, and I clipped short, but those I pulled clear out seemed to grow right off from those not pulled but clipped, and they have a good start before the second crop of feathers start. I shall pull some the second time, just to find out what effect it will have. Perhaps I can produce a breed all brown but the wings, and those pure white. Such a breed would be a curiosity, to say the least, and the point would be just about as valuable as many of the new breeds that we hear of.

THE SWINE YARD.

Swine Notes.

It is well always to select the breeding sow early, and give her the especial kind of feed and care adapted to prepare her for her mission in life, advises the *American Cultivator*. The old-fashioned practice of some farmers of feeding all the pigs together on corn until nearly fattening time, tended always to deterioration. Not but that the sow which had fattened least and had made liberal growth instead of putting on fat even with this feed was the sow out of the lot that was then the best adapted to breeding. But it was also the sow that had shown, by its failure to fatten when high fed, that it lacked the especial trait that made a hog valuable. What is wanted in breeding sows is the greatest possible ability to make use of all the food given, so that the tendency will always be to an excess of fat, and then feed them so that this tendency will be kept in check, and yet so liberally as to promote vigorous growth. This means an abundant but not any concentrated ration of food adapted to make growth rather than fat. All the grains are too fattening. Wheat middlings and skim milk diluted with dish washings, with enough grass in summer or beets in winter to keep the pig from squealing, will build up a long, rangy sow that will produce more and better pigs in half a dozen years of her life than a farmer can make by any other like investment of his money.

Clean Up.—This is the time of year when farmers should particularly exercise precaution in the management of their hogs. The next ninety days will bring to the surface swine plague, cholera, fevers and other ailments of hogs, or will pass us over the critical time for such attacks. Clean up the hog lot, burn the corncobs and trash, and make your hog quarters at least half-way respectable, and see if you are not in turn amply repaid for all labor in so doing.

Keep Them Growing.—To get the best results with pigs, they must be kept growing from the start. Their food should be varied and always of the best. Never feed damaged food, such as moldy grain or smutty ears of corn. The old idea, that anything is good enough for hogs, has long since been exploded. Farmers who still believe it are those who are continually complaining that farming does not pay. How could it when such methods are followed?

Corncob Charcoal.—Theodore Lewis, the well-known swine raiser of Wisconsin, gives in *Hoard's Dairyman* his method of preparing charcoal, etc., for his hogs. A cone-shaped hole is dug in the ground near the hog house, four or five feet deep, five feet in diameter at the top and one foot at bottom. A sheet-iron cover is provided. A fire of shavings is started in the bottom and corncobs added by degrees as they get aglow until the pit is full. If they burn faster on one side, lift them on the opposite side with a pole. When all are well aglow cover the hole with the sheet iron and seal edges with earth. Next morning there should be twelve bushels of charcoal; (Mr. L. prepares 200 bushels of corncobs in this way). Store the charcoal in spare salt-barrels, breaking it with the shovel in filling. Put six bushels of it in a large box, add one bushel hardwood ashes, eight pounds of salt, and mix thoroughly. Then dissolve one and one-fourth pounds of copperas in a pail of hot water and sprinkle it over the mass with a watering-pot, mixing it through. Then make a self-feeding box with cover, and place it where the hogs can have free access to it, staking it so that it cannot be rubbed over.

Money of the World.

The Philadelphia *Press* says: "The money of the world is distributed as follows:

Countries.	*Gold.*	*Silver.*
United States*.	$600,100,000	$625,600,000
United Kingdom	580,000,000	115,000,000
France	850,000,000	487,900,000
Germany	625,000,000	215,000,000
Belgium	55,000,000	54,900,000
Italy	98,200,000	41,400,000
Switzerland	14,900,000	15,000,000
Spain	40,000,000	166,000,000
Portugal	38,000,000	24,800,000
Austria	140,000,000	120,000,000
Netherlands	29,200,000	56,200,000
Norway	7,500,000	2,000,000
Sweden	8,000,000	4,800,000
Denmark	14,500,000	5,400,000
Russia	480,000,000	48,000,000
Turkey	50,000,000	40,000,000
Australia	115,000,000	7,000,000
Egypt	120,000,000	15,000,000
Mexico	5,000,000	55,000,000
Central America	500,000	12,000,000
South America	40,000,000	30,000,000
Japan	80,000,000	84,300,000
India	.....	950,000,000
China	.....	750,000,000
Canada	14,000,000	5,000,000
Cuba	18,000,000	1,500,000
Totals	$4,068,800,000	$4,070,500,000

Countries.	*Paper.*	*Per capita— Gold.*	*Silver.*
United States*	$383,300,000	$ 8 41	$ 8 77
United Kingdom	113,400,000	14 91	2 96
France	32,100,000	22 19	12 94
Germany	60,400,000	12 21	4 20
Belgium	65,400,000	8 73	8 71
Italy	191,800,000	3 20	1 35
Switzerland	.....	4 97	5 00
Spain	83,700,000	2 28	9 49
Portugal	55,100,000	7 45	4 86
Austria	204,300,000	3 22	2 76
Netherlands	28,600,000	6 21	11 96
Norway	3,800,000	3 75	1 00
Sweden	2,100,000	1 66	1 00
Denmark	5,400,000	6 30	2 35
Russia	539,000,000	3 80	38
Turkey	.....	2 27	1 82
Australia	.....	24 47	1 49
Egypt	.....	17 65	2 20
Mexico	2,000,000	41	4 54
Central America	8,000,000	09	2 14
South America	550,000,000	1 11	83
Japan	.....	1 95	2 05
India	37,000,000	....	3 21
China	.....	....	2 08
Canada	20,000,000	2 92	1 04
Cuba	.....	10 00	83
Totals	$2,436,500,000	....	....

*July 1, 1896; all other countries, January 1, 1895.

A Synthesis of Humanity.

In the museum of one of our great medical schools there is a large case filled with bottles—a ghastly collection—for they contain the physical ingredients of a man. First, we see a large glass jar which holds the ninety-six pounds of water which the body of the average-sized man contains. Next comes a bottle with three pounds of white of egg—albumen—nine pounds fourteen ounces of pure glue, thirty-four and one-half pounds of fat, one pound of phosphate of lime, three ounces of sugar, one pound of carbonate of lime, one and one-half ounces of starch, seven ounces of calcic fluoride, six ounces of ordinary salt and six ounces of magnesium phosphate.

The case has another division, and this holds an array of bottles and cases which represent a man split up into his primary elements. These are ninety-seven pounds of oxygen, in volume enough to fill a case ten feet cubed; fifteen pounds of hydrogen, enough to fill under ordinary pressure five such cases; also three pounds thirteen ounces of nitrogen. All these gases are compressed into cases to save space. Then there is about a cubic foot of solid carbon, in front of which are ranged smaller bottles containing four ounces of chlorine gas, eight ounces of phosphorus, three and one-half ounces of sulphur, two and one-half of sodium, the same of potassium, two of magnesium, one-tenth of an ounce of iron and three pounds thirteen ounces of calcium.

To this must be added three and one-half ounces of fluorine in combination, for it has never yet been obtained pure, and a minute quantity of almost every element which the earth contains—silver, copper, gold, lead, arsenic, lithium, etc.—all of which are contained in the body of a man.

The methods of the Rathburn Company an Deseronto, Province of Ontario, Canada, are worthy of emulation in many of the finest districts of this country. As described in the *Northeastern Lumberman*, they are making it a point to consume many forest products usually considered as waste material. Their annual drive comprises all sorts and conditions of logs. Of their cedar, for example, what is not suitable for lumber is made into railroad ties, fence posts or blocks for street paving and in some cases into shingles. Of the pine and spruce waste pieces that are not available for laths are cut into match splints and exported to England. Short pieces of lath not long enough for use are sent to New York to be made into banana crates. What is fit for nothing else is used or sold for fuel or used to make charcoal. The policy the company has pursued is more in the line of scientific forestry than most big firms in the lumber business in this country in the management and care of the forests they hold.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING AUGUST 25, 1896.

566,554.—PLUMB LEVEL—J. Appleton, Modesto, Cal.
566,659.—PLOWS—G. C. Christenson, Newberg, Or.
566,568.—BICYCLE—C. B. Fields, Merced, Cal.
566,303.—ROTARY ENGINE—Fisk & Camp, Sedro, Wash.
566,395.—STEAM GENERATOR—A. Heherer, Alameda, Cal.
566,269.—LAST—A. M. Leighton, Everett, Wash.
566,348.—THILL SUPPORT.—E. J. Spencer, San Diego, Cal.

NOTE.—Copies of U. S. and Foreign patents furnished by Dewey & Co. in the shortest time possible (by mail for telegraphic order). American and Foreign patents obtained, and general patent business for Pacific Coast inventors transacted with perfect security, at reasonable rates, and in the shortest possible time.

RESIN, or crude turpentine, is the material obtained by tapping or bleeding the trees. Spirits of turpentine is the liquid obtained by distilling the crude resin. Rosin, or colophony, is the residue after the distillation of resin. Common pitch is the residue from the dry distillation of rosin. Brewers' pitch, which is used for coating the interior of beer kegs and barrels, is obtained by stopping the distillation of resin before all the oil has been distilled. Tar is produced by distilling the wood itself, and oil of tar is obtained by distilling the tar. Each of these articles is separated commercially into several different grades, and every grade has its own name.

WHEN birds are migrating the males usually precede the females. The robins, for instance, which are seen early in the year, are almost invariably males, which apparently traveled on before their mates. The female birds follow, perhaps because they are not such powerful flyers and also, perhaps, because they like to take their time and gossip with one another. In the fall the male birds leave first—the old ones—while the females travel along together with their young, solicitous for their welfare, and still training them after the fashion of mother birds.

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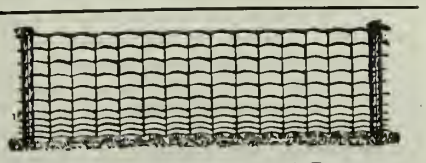
HORTICULTURIST.
Practical horticulturist of California experience can have steady employment on one of the largest fruit farms in San Diego county, consisting of oranges, lemons, olives and apricots. Only wide-awake, up-to-date parties need apply. If no children, wife can have position as cook for ranch hands. Address, with references, F. F. ADAMS, Fallbrook, California.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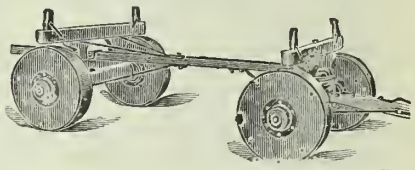
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THE HOME CIRCLE.

Drifting Away.

They drift away. Ah, God! they drift forever.
I watch the stream sweep onward to the sea,
Like some old battered buoy upon a roaring river,
Round whom the tide waifs hang—then drift to sea.

I watch them drift—the old familiar faces,
Who fished and rode with me, by stream and wold,
Till ghosts, not men, fill old, beloved places,
And, ah! the land is rank with churchyard mold.

I watch them drift—the youthful aspirations,
Shores, landmarks, beacons, drift alike.

* * * * * *

I watch them drift—the poets and the statesmen;
The very streams run upwards from the sea.

* * * * * *

Yet overhead the boundless arch of Heaven
Still fades to night, still blazes into day.

* * * * * *

Ah, God! My God! Thou wilt not drift away!

—Charles Kingsley.

Some Time.

Last night, my darling, as you slept
I thought I heard you sigh,
And to your little crib I crept,
And watched a space thereby;
And then I stooped and kissed your brow,
For oh! I love you so—
You are too young to know it now,
But some time you shall know!

Some time when, in a darkened place
Where others come to weep,
Your eyes shall look upon a face
Calm in eternal sleep;
The voiceless lips, the wrinkled brow,
The patient smile shall show—
You are too young to know it now,
But some time you may know!

Look backward, then, into the years,
And see me here to-night—
See, O my darling! how my tears
Are falling as I write;
And feel once more upon your brow
The kiss of long ago—
You are too young to know it now,
But some time you shall know.

—Eugene Field.

How Lelia Entered Her Claim.

Lelia Staunton was strong, capable and decisive. She had had a good, all-around education, but not quite thorough enough at any point to fit her for a teacher; so when the small income of her mother dwindled down to less than an actual living Miss Lelia began to cast about for ways and means to replenish it.

But Little Compton offered few opportunities, especially to girls, and presently Miss Lelia—everybody called her that—extended the horizon of inquiry to the world outside. There were only her mother and herself at home, so naturally her first thoughts went to those sections of the world which contained her brothers and sisters. Tom, the eldest, was mate of a Clyde steamer, and he was promptly dismissed as useless; then came Charlie, who was a lieutenant of cavalry in Arizona, and he was also useless; and after them came Will, who was railroading, and Jack, who was merchandising, and Alice — why, certainly! Alice was the very one. She had married an orange grower in Florida, and had written time and time again for her mother and sister to join her.

Miss Lelia had given little thought to Florida. If she had been a boy she would have chosen cattle raising somewhere in the West, and even as it was she leaned strongly toward a homestead there, and the raising of fruit or poultry or farm crops for a living. Women were doing such things every day, and were succeeding, too. However, a few vigorous letters from Lieutenant Charlie made her reluctantly abandon the idea.

But the orange State was a strong substitute, and Miss Lelia was not easily discouraged. There were free lands in Florida, and with the home of Alice as a vantage point she would look around and select a homestead, and then she and her mother would go to it and raise oranges or truck or poultry, as circumstances and their inclination might suggest.

So a few weeks later found them at Alice's house, with such of their furniture as they had not sold, and with Alice's husband on the lookout for a suitable piece of vacant land.

"You will probably have to go back some distance," he said; "most of the land in the vicinity of towns is already taken up—I know of several good homesteads ten or fifteen miles away."

Mrs. Staunton raised her eyebrows.

"That is a long distance," she demurred. "Couldn't we get nearer a town than that?"

"It is doubtful. Land has been taken up very rapidly during the past few years. However, I will make more inquiries. Sometimes a homestead is abandoned by its claimant before his title is perfect, and it reverts to the government; then it may be re-entered by any one. Several such instances have occurred in this neighborhood."

One day he came in with a radiant face.

"I have found a prize for you!" he exclaimed. "A German who lives two miles from here has just been left a fortune at home, and is going back. He entered his claim nearly three years ago, and has made quite a lot of improvements; but of course he doesn't mind them now. He leaves this afternoon, and then the land becomes public property. I asked him if he had spoken of it to any one, and he said only to the postmaster. He received the news this morning and told the postmaster about it. I have been able to do him some service, and when I spoke about you he seemed pleased, and said that he would like you to have the land and the improvements. He said he would like to think of the place as belonging to some of my people. Now the sooner you file your claim, the better. I will go with you to-morrow, if you like."

"Why not go at once?" asked Miss Lelia, eagerly.

"I have an engagement this afternoon and can't possibly get off. But we'll start early in the morning."

"That might be too late," urged Miss Lelia. "It's only fifteen miles to Gainesville. Why can't I go alone?"

Her brother-in-law looked at her thoughtfully.

"Well, I—don't—know," he replied. "I hardly like the idea of your going alone. Still, time is important, as you say; and the road is good, and you are a splendid rider. You could make it in three hours, and you could spend the night with Mrs. Wilson. Under the circumstances—"

"I had better go," she interrupted, "Good! now if you will please saddle a horse. I will run upstairs and get ready."

Her brother-in-law's place was in the outskirts of a small town, and as he went toward the barn he heard hasty footsteps outside the fence which separated him from the street, and presently a strong, athletic figure vaulted over and came toward him.

"I beg your pardon, Mr. Gifford," the stranger said, hurriedly, "but can you let me have a horse for a few hours? My brother said that you kept the best horses in town."

"Not to let, though," answered Mr. Gifford, rather coldly. "Who is your brother?"

"Henry Wayne, the postmaster. You see, I only reached here to-day, and Henry has been telling me something which renders my presence in Gainesville imperative."

"Ah!"

Mr. Gifford's "Ah!" was very expressive, and he looked out across his orange grove as though in search of an answer to some outspoken thought.

"I am in a great hurry," hinted Mr. Wayne, after a prolonged silence, "and I will pay you well."

"I want no pay," harshly. Then, with a sudden change of voice, "Yes, I think I can let you have a horse; but I do not warrant his speed."

Leading the way to the stable, he pointed to a large gray.

"That is the strongest one in the stable," he said; "you can have him if you like. The black one is faster, but I reserve him especially for the side saddle; and the two bays have been working this morning."

Five minutes later he led the black horse to the stile. Miss Lelia was waiting.

"Who was that gentleman?" she asked.

"A Mr. Wayne. He is going to Gainesville. I let him have the gray horse."

"The gray horse!" she echoed, as she sprang lightly into the saddle. "Why, that is the plow horse. He could go faster on foot."

"So I think," coolly; "but I fancy he is after the very nice piece of land I have been telling you about. He has gone by the main road; you must take the short cut through the live oaks and on past Lake Dora. That will save you two miles and allow you to avoid him. He might recognize the black horse." He took a slip of paper from his pocketbook and handed it to her. "That contains all the necessary information about the homestead," he admonished. "Give it to the clerk whose name is on the back. He knows me, and will see that your entry is made correctly. Now go, and don't spare the whip."

Miss Lelia was a good rider, as he had said, and it was not long before she had passed through the live oaks, and by Lake Dora, and so on to the main road. The stranger was not in sight.

For half an hour she sped on, the horse taking the road almost as lightly as a bird; suddenly a piece of newspaper rattled across their path, and the horse shied violently, throwing her into the bushes by the roadside.

Fortunately she was not much hurt; but as she rose to her feet a sharp twinge told her that one of her ankles was sprained. The horse was nibbling tussock grass a few yards away, apparently quite satisfied with the new order of things.

"Dick, Dick! Come, Dick!" she coaxed, as she limped toward him.

But Dick was not coming just then. He was in a playful mood, and as she advanced he retreated. She followed him several rods, then he whirled and trotted back over the road they had come. Miss Lelia watched him until he had disappeared. She did not feel able to walk any farther, so she sat down upon a stone to consider. Gainesville was six mils away, her home nearly ten, and her ankle was growing worse. Clearly there was nothing for her to do but wait for some chance passer to come to her assistance.

An hour went by. Then she heard the faint tap, tap of hoof beats in the distance. Presently a gray horse appeared, and behind him was Dick, apparently being led by the rider of the gray. As they approached, she recognized her brother-in-law's plow horse, and the rider was, of course, after the very land she wanted. Her heart sank.

"I suppose this is your horse?"

The voice was rich and musical, and, as the stranger lifted his hat, she felt that the strong, scholarly face belonged to a true man.

"I met him down the road and thought that he had run away. Ah, you are hurt!" he added, as she essayed to step forward. "Here, let me assist you." He sprang from his horse, throwing the bridle of the black over his arm as he did so. "My gray will stand all right," he said, smilingly. "I am afraid that his owner thought I was a poor horseman, and so gave me a steed that would be safe. Easy now; lean on me."

He assisted her to the saddle, and then examined the girths and bridle to see that everything was secure.

"Do you think you are able to go on alone?" he asked.

"Oh, certainly! The bushes broke my fall. I think that my ankle will be all right by to-morrow."

"Well, then, I will not try to keep up with you. My horse is very deliberate in his movements, and I doubt if I reach town before dark. Good-by!"

He watched her until she passed behind a bend in the road; then he mounted the gray and jogged slowly after.

As she rode on Miss Lelia's emotions were a curious mixture of exultation and dismay. She would be the first to enter a claim to the land, but in doing so she almost felt that she would be taking an unfair advantage of the man who had come to her assistance. At times she thought of stopping and waiting for him to come up, and explaining everything and offering him a fair race. Then she would think of her mother, and of her brother-in-law, and of the German who said that he would like her to have the land. Of course, she had a better right to it than this stranger; and, of course, it would be the height of folly for her to throw away any of her advantage.

But she could not quite satisfy herself; and the thought of the stranger jogging along on the old plow horse accompanied her into town, and into the land office, and grew stronger when she knew that the homestead was securely in her possession.

Early the next morning she started on her return trip, and soon after leaving town overtook the old gray horse and his rider, moving slowly back toward home.

"I am glad to see you looking so well," said Mr. Wayne, as she reined in her horse in answer to the salutation. "I hope your adventure of yesterday caused you no inconvenience."

"Very little, thanks to you."

They rode on for some minutes in silence; then Mr. Wayne looked at her humorously.

"If you are not in a hurry," he said, "I will do my best to make the old gray keep up."

"I have the day before me, and I shall be glad to have company."

"Thank you." Then, "Did you enter your claim all right?"

Miss Lelia flushed and looked at him inquiringly. He laughed frankly.

"I recognized your horse as one I had seen in Mr. Gifford's stable, and put one thing and another together. But don't think I harbor the least ill-feeling toward the old gray," he went on, quickly, patting the animal as he spoke; he and I are getting on famously together. And really and truly and honestly, Miss—"

"Staunton."

"Thank you—Miss Staunton, I am a thousand times obliged to you for obtaining that land. You see, my brother was wild about my getting it, and his enthusiasm was so contagious I never paused to consider the consequences. Now, I am a lawyer, and I think I see a good opportunity down here for me to practice my profession. But suppose I had buried myself out on that homestead. Why, it would have been the extinguishing of both the profession and myself. Not but what it is a fine piece of land," hastily, "and a prize to anyone who can afford to live on it the necessary five years. But, you see, I could not do that and practice."

Miss Lelia looked at him searchingly.

"Are you in earnest?" she asked.

"Really and truly and honestly, as I just observed.

She looked relieved.

"I am glad to hear it," she said. "I was afraid that I—I might not have acted quite fairly by you."

When they reached the home of Mr. Gifford they found the owner absent. Mr. Wayne assisted Lelia to dismount, and took the horse to the stable. Then he came back to the porch to say good-by.

"It has been a very pleasant ride," he said, earnestly, and something in his voice brought a warmer color to her face. "May I call again?"

The color grew deeper, and something of her embarrassment even crept into her voice as she answered:

"Yes, certainly."—Frank H. Sweet.

Gems.

Step by step one goes far.—Dutch Proverb.

There is no pain like the pain of a new idea.—Bagehot.

It is easier to stem the brook than the river.—Danish Proverb.

Courtesy is cumbersome to them that know it.—Scottish Proverb.

Love is the greatest and grandest foundation stone upon which the human

character is built. Lacking it, a man is a moral zero.—Rev. O. J. Davis.

He that would have the kernel, must crack the shell.—Dutch Proverb.

Better pass a danger once than be always in fear.—Italian Proverb.

He who would make a golden gate, must bring a nail daily.—Dutch Proverb.

Never fear to bring the greatest comfort to the least trouble and the largest inspiration to the smallest duty.—Phillips Brooks.

We are not all called to great service; but we are called to sympathetic interest in those who are so, and to help them as we may.—Alexander Maclaren.

If your intercourse with your fellowmen is what it should be, your conduct continually strengthens all good desires and resolves and intentions within them. —David Utter.

Home, dear home, if it only holds a venerable mother, or a little child, or any being who is dear and fond and true, thank God for it, and cling to it as to very life.—Presbyterian Journal.

Mr. Ruskin gives a definition, which, says a writer with all due respect, I venture to reject. He says, "Greatness is not a teachable nor a gainable thing, but the expression of the mind of a God-made great man." Beautiful as this is, I do not believe that greatness is something which cannot be taught or gained; on the contrary, I hold that there is not a single man who may not be truly great. I prefer the definition of Ralph Waldo Emerson when he says, "What your heart thinks great is great; the soul's emphasis is always right." Two other definitions will suffice. Cicero says, "There never was a great man unless through divine inspiration." And Shakespeare says, "He is not great who is not greatly good."—Selected.

Curious Facts.

An Antarctic iceberg has been seen that is twenty miles wide, forty miles in length and 800 feet high.

In France licenses are issued to women to wear male clothing. One holder of a license is the manageress of a printing office.

Only seventy years have elapsed since the first railway in the world was finished. During that comparatively brief period 400,000 miles have been constructed.

A bride in Montreal appeared at the altar with her pet canary fastened to her shoulder by a golden chain. During the marriage ceremony the bird broke into song.

Mohammedan depositors in the post-office savings banks are enriching the British Government, as their religion forbids them to receive interest. They insist on taking out no more than they have put in.

Dr. George B. Haggart thinks that birds eat pokeberries in preference to other kinds when they wish to cut down their weight so as to fly well. Some of the anti-fat remedies contain pokeberry juice.

Canada proposes to erect a suitable monument to John and Sebastian Cabot at Bristol, England, in commemoration of the voyage they took in 1497, starting from that point and ending in the discovery of the Canadian coast.

Mrs. Maggie Norvell has charge of the lighthouse at the head of the passes, Port Eads, La. The bell, which sounds on foggy nights over the black waters of the passes, is always rung by Mrs. Norvell herself. There are about twenty women lighthouse keepers in the United States alone.

The Yale lock manufacturers have proved that in a patent lock having six "steps," each capable of being reduced in height twenty times, the number of changes or combinations will be 86,400. Further, that as the drill pin and the pipes of the keys may be made three different sizes the total number of changes will be 2,592,600. In keys of the smallest size the total number of changes through which they can be run is 648,000, while in those of large size the number can be increased to not less than 7,776,000 different changes.

One gets an idea of the magnificent distance of the czar's realm from learning that the Russian general who was in a hurry to get to St. Petersburg from Vladivostok found the time-saving route was to go to Yokohama by steamer, thence by another steamer across the Pacific to San Francisco, by rail to New York, and by steamer to Europe. The gap between the finished sections of the trans-Siberian railroad is so many hundred miles in length that the general would have lost time in traversing the wilds of that vast country, where horses furnish all the transport.

Humorous.

A woman knows a bargain—after she has been married long enough.—Detroit Free Press.

"I know why it's such fun to play in the hay," said little Anne. "It's because the hay tickles you and makes you laugh."—Harper's Round Table.

A lazy man, of a sort that most of us have seen, is said to have remarked, "I git so tired doin' nothin' that I can't do nothin' else.—Youth's Companion.

A lady and gentleman touched each other's feet accidentally under the table. "Secret telegraphy," she said. "Communion of soles," I think, said he.—Credit Lost.

Judge—You say your husband gave you that black eye. Then why isn't he in court to answer to the charge? The Plaintiff—Sure, your honor, he can't see or walk.—Life.

Economics.—"The present trouble is that there are too many men for the number of jobs," said the amateur lecturer on the situation. "And that ain't all," interrupted Dismal Dawson; "another trouble is that there is too much work to the job after the man gets it."—Indianapolis Journal.

An old fellow who had recently buried his fourth wife was accosted by an acquaintance who, unaware of his bereavement, asked: "How is your wife, Cap'n Plowjogger?" "Waal," replied the captain, with a solemn, not to say sad countenance—"waal, to tell the trewth, I'm kinder out of wives just now."—New York Tribune.

He was very differential, but he was a deacon in the church and he felt that he had a right to criticise. "I hope you'll pardon me," he said, "if I suggest that your sermons are—ah—"Too prosy, I suppose, suggested the minister. "Oh, no; not that. But too long." "But you musn't blame me for that," returned the minister pleasantly. "If you knew a little more I wouldn't have to tell you so much."—Chicago Post.

Electing a President.

The aggregate number of electors this year will be 447, of which a majority is 224. These are divided as follows: Alabama 11, Arkansas 3, California 9, Colorado 4, Connecticut 6, Delaware 3, Florida 4, Georgia 13, Idaho 3, Illinois 24, Indiana 15, Iowa 13, Kansas 10, Kentucky 13, Louisiana 8, Maine 6, Maryland 8, Massachusetts 15, Michigan 14, Minnesota 9, Mississippi 9, Missouri 17, Montana 3, Nebraska 8, Nevada 3, New Hampshire 4, New Jersey 10, New York 36, North Carolina 11, North Dakota 3, Ohio 23, Oregon 4, Pennsylvania 32, Rhode Island 4, South Carolina 9, South Dakota 4, Tennessee 12, Texas 15, Utah 3, Vermont 4, Virginia 12, Washington 4, West Virginia 6, Wisconsin 12 and Wyoming 3. The Territories and the District of Columbia, which have representation in the nominating conventions of both parties, have no voice in the electoral college. The electors of each State meet at the capital of the State "on the first Wednesday in December in the year in which they are appointed," and cast the vote of the State for the candidate of the party by which they were elected. In case no candidates receive a majority of all the electors, the House of Representatives shall elect, the vote being taken by States, each State casting one vote.

When the electors meet in their respective States and cast their ballots for President and Vice-President, "they shall make distinct lists of all persons voted for as President and of all persons voted for as Vice-President, and of the number of votes for each, which lists they shall sign and certify and transmit sealed to the seat of government of the United States, directed to the President of the Senate." On the second Wednesday in February succeeding the meeting of the electors in the several States, Congress shall, in joint session in the Hall of Representatives, the President of the Senate presiding, open the certificates, count the votes and declare the result, if either candidate shall have a majority. In the event that neither candidate has been elected, the House of Representatives elects the President, being limited to the three candidates having received the highest vote of electors, and the Senate elects the Vice-President, a majority of the whole number being necessary to a choice.

Popular Science.

Dr. Schoot, the German hydrographer, says that there are not less than 20,000 tons of mineral matter per day added to the store which the ocean already holds in solution.

The air after a heavy snowfall or shower is usually very clear, because the snow or rain in falling brings down with it most of the dust and impurities and leaves the atmosphere exceedingly clear.

We may accept 92,700,000 miles as the length of the earth's mean orbital radius, according to the results of observations made by Prof. Harkness and Dr. Gill. Prof. Young gives it as 92,975,500 miles.

DOMESTIC ECONOMY.

Domestic Hints.

Egg Nogg.—Put two yolks of eggs into a goblet with a little grated nutmeg, a good spoonful of brown sugar and a teaspoonful of grated ginger; make hot a pint of ale with a bit of cinnamon and a glass of rum; pour gradually to the yolks of eggs, etc., whisking the white with a wire whisk; serve hot and frothing.

To Prepare Sago.—Boil two ounces of pearl sago in a pint of water for twenty minutes, add a little sugar and flavor with a small spoonful of brandy, or a little red or white wine, or with a little orange flower water; or if more agreeable, a very small piece of orange or lemon peel may be boiled with the sago. Sago may also be boiled in either mutton, chicken or veal broth, or in beef tea.

Dumplings for Pot Pie.—Are you ever troubled to make good, light dumplings? Try this way once and see if you do not like it. For eight dumplings put two teaspoonfuls of baking powder and two cups of flour into a bowl and mix thoroughly. Add a half teaspoonful of salt and enough sweet milk or cold water to make a very stiff batter or dough, so thick that it will hardly drop from a spoon. Stir thoroughly, then drop on top of boiling meat and cook briskly for twenty minutes.

Lettuce Sandwich.—Select large flat leaves of the lettuce, put a layer of leaves, spread with prepared mustard or horse radish, on a thinly buttered slice of bread. Cover with lettuce leaves, then lay on another slice of bread. Trim neatly and serve on a bed of lettuce. When making lettuce sandwiches, there is nothing nicer than to spread the bread with a mayonnaise dressing instead of butter. This is seasoning enough for the lettuce. In using cucumber, the best seasoning would be salt and red pepper—a very little salt, for too much would wilt the cucumber and make it tough.

Fruit Dressing—The following is an excellent substitute for cream to eat on fresh fruits: Beat together the whites of two eggs, a level tablespoonful of sugar, a piece of butter the size of a hickory nut and one teaspoonful of corn starch. Stir in half a cup of cold milk and beat very hard. Put one cup of milk over the fire, and when it boils draw the dish to a cooler part of the range and pour in the egg mixture. Let it simmer until the milk thickens a little. When cold, strain through a sieve.

Tomato Toast.—Run a quart of stewed tomatoes through a colander, put in a stew pan, season with butter, pepper and salt and sugar to taste. Cut slices of bread thin, brown on both sides, butter and lay on a platter, and just before serving add a pint of good sweet cream to the tomatoes and pour over the toast.

Hints to Housekeepers.

Use bits of stale bread for croutons. Cut them in small dice and brown in the oven. Serve hot with soup.

If grass stains in white goods are rubbed with alcohol before articles are put into soap and water, the stains may be readily removed.

Never finish a meringue by placing it in a hot oven. It should brown slowly in a cool oven, when it will rise high and be light and spongy.

Bits of fish may also appear in the form of soup. They are boiled in milk, strained through a coarse sieve, seasoned to taste and served with croutons.

All bread crumbs which may be in the bread jar should be dried, rolled fine and placed in a jar or can ready to use in escalloping meats, fish, oysters, vegetables, or as thickening.

Bits of fish may be used for salad, and it is very good. Any mayonnaise may be used, but fish salad calls for more mustard and vinegar. A chopped pickle added to the fish makes it piquant.

If a clean cloth wrung out of water to which half a teaspoonful of ammonia has been added is used to wipe off a carpet, which has been recently swept, it will remove the dusty look and brighten the colors.

Meats never allowed to boil will be more tender than those that cook hard. Tough meats become tender by proper cooking, while the reverse of this is equally true. Hard boiling in salted water will toughen the best piece of meat ever sold.

Old potatoes are made mealy by being soaked for an hour in cold water after being peeled. When boiling they should be cooked in salted water; when the potatoes are soft, turn off the water, leave the potatoes in covered kettle to dry off all steam. They will be nearly as nice as new ones.

Do not throw away old preserve jars which have lost their covers, or whose edges have been broken, so that the covers will not fit tightly. They are excellent for holding pickles. When filled, tie a piece of cotton cloth over the top to keep out insects, and put the jars away in the store-room closet.

In making cream or lemon pies, where the crust requires to be baked before the filling is put in, an excellent plan is to lay over the paste a piece of strong brown tissue paper, plaiting it to fit the pie plate and coming above the edge. Fill this with flour or meal and bake until the crust is done. Then the paper and contents may be lifted out. If flour is used it can be utilized afterward for thickening sauces and gravies.

If you have not a cool store-room where any amount of butter may be kept sweet and firm, cover the butter with a brine. First make the butter into rolls and wrap them in pieces of muslin. Make a brine of six quarts of water, using so much salt that an egg will float in it. Add two tablespoonfuls of granulated sugar and half a tablespoonful of saltpetre. Have the brine come to a boil, and when it is cold strain it over the butter. The brine should more than cover it. A weight can be put over the rolls to keep them under the surface to exclude the air.

Tobacco Dust as an Insecticide.

Mr. T. Greiner, one of America's leading authorities, says: "For some years I have been using and recommending tobacco dust as an all-round insect destroyer. I use it in the greenhouse for lice (aphis), in the open ground for the cucumber beetle, plant lice, and for worms of all kinds, and sometimes in the hen-house for lice, etc. It is surely one of the swiftest of all insecticides we can apply, almost or fully equal to buhach. If sifted or scattered over current bushes the currant worms will curl up and die, and the bushes will be free from the pest within an hour or less, and fall from them for some time. If blown into the heart of cabbage plants it means the end of the green worm. Applied in the same way to the nests of the caterpillars (and the trees all around us at this time are full of them) especially in the morning or evening, when the worms are all at home, it will clear them out for good in less than an hour. In short, I hardly know what worm or other soft-bodied insect the contact with tobacco dust would not speedily kill. I believe it will even put an end to the potato bug. It is distasteful to many hard shell beetles also, as may be seen by the fact that with applications we can drive away the cucumber beetle (and perhaps the squash bug). The flea beetle, unfortunately, is not so easily conquered, even if it does not like tobacco smell. Surely, tobacco dust must be considered a most excellent insecticide, and as it is not expensive (in some cases, perhaps, the sweepings of cigar factories, etc., will do and can be had for the hauling). I think every soil tiller should keep it on hand. I have usually applied tobacco dust with the bare hands, scattering it rather freely over the bushes and plants, and around cucumbers, melon and squash vines, even an inch deep on the ground. The stuff is worth nearly the full price asked for it ($3 per barrel, or so) as a fertilizer, and I have not felt the necessity of using it in a particularly economical manner. For cabbage and caterpillar nests, however, hand bellows of some kind are almost necessary, as we want to blow the dust well among the leaves and the webs. The ordinary cheap hand bellows, as offered for sale by seedsmen and hardware stores, will do very well for cabbage."

Cantilever Bridges.

The origin of the word "cantilever" is somewhat obscure. In modern engineering, a cantilever, strictly speaking, denotes a girder fixed at one end and otherwise unsupported. For convenience the collective term "cantilever bridge" is applied to a structure of which a cantilever proper forms a component part.

The first iron bridges of this type were built in 1876, although their advantages, under certain conditions, had been recognized at an earlier period.

The cantilever type of bridge seems destined to occupy a field intermediate between that held by the simple truss for moderate span lengths and that which will probably be covered by some form of suspension system for spans above 1500 or 2000 feet.

The conclusions as to the comparative merits of cantilever and non-continuous trusses and to the conditions affecting their relative cost, briefly summarized, are as follows:

For moderate span lengths, cantilever bridges are, under ordinary conditions, uneconomical compared with non-continuous ones, owing to (*a*) increased weight of anchor trusses and (*b*) added cost of shore anchorages in cantilever bridges of the Niagara type.

These advantages are balanced in part by the following favorable features: (*a*) Decreased weight of trusses in the cantilever arms and suspended span, as compared with simple trusses equal to their aggregate length; (*b*) decreased cost of erection.

For moderate span lengths a net comparison will show an economic advantage in favor of simple trusses, unless local conditions are such that the construction of false works would be attended by extraordinary expense.

With increasing span lengths certain advantageous features of the cantilever system become more emphasized, until a limit is reached, beyond which well-designed bridges of this type are more economical than simple trusses with the same arrangement of piers, aside from advantages incidental to their method of erection.

A Growing Business.

The growth in the use of electricity is none the less rapid because carried on quietly. To gauge the progress, attention should not so much be directed to the fields of electric lighting and electric railways as to that of electric power, a field which is now steadily repaying the arduous culture bestowed upon it during the past few years. Not a day now passes without the record of some extensive project for the transmission of power, or of the completion of some installation in which the current is used either to supersede steam, or in new places where steam would otherwise have been selected. Mills, mines, factories, shops of all kinds all over the country are steadily coming to the use of electric power, and the first failure has yet to be recorded. The economy and efficiency of electric power is perhaps most forcibly demonstrated by the extent of the orders placed for power apparatus, for it may be confidently asserted that greater engineering talent and closer examination is brought to bear upon electric power apparatus than upon apparatus of any other order. We have secured from the General Electric Company's power and mining department some figures which illustrate not only the growth in the use of electric power, but also its economy and efficiency. These figures are represented in the unfluctuating H. P. instead of in dollars, which, on account of the fluctuation in prices, offers no standard gauge—the figures taking cognizance of electric power apparatus only:

	1892.	1893.	1894.	1895.
Horse Power.....	13,719	18,762	42,379	46,727

In 1896 the missionary work of the past four years began to come to rapid fruition. From January 1st to July 1st the total H. P. of the apparatus ammounted to over 48,000. During the same period in 1895 the aggregate orders amounted to 25,737 H. P. From August 1st to August 18th the total amount of power apparatus ordered during 1896 was increased to the respectable figure of 62,164 H. P. Such a showing in face of the universal dullness in business everywhere is remarkable.

A Chicago company is constructing a monster belt, the dimensions being as follows: Length, 150 feet; width, 7 feet; weight, 3300 pounds; thickness, ⅞-inch. In its construction the selected portions of 450 oak-tanned hides, picked from over 5000 skins, were used. The belt is to be used in the engine room of the Louisiana Electric Light Company at New Orleans, where it will be attached to the 23-foot driving wheel of a great Allis-Corliss engine.

Notice to Passengers.

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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Sept. 8, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Tuesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	113,094	1,282,632	671,264
Wheat, ctls	523,818	1,877,464	1,581,195
Barley, ctls	270,210	1,513,053	823,266
Oats, ctls	10,310	78,956	105,725
Corn, ctls	2,875	33,104	15,281
Rye, ctls	1,080	7,943	6,862
Beans, sks	7,526	50,185	23,376
Potatoes, sks	26,732	191,128	193,873
Onions, sks	3,174	31,922	26,605
Hay, tons	4,271	39,428	41,168
Wool, bales	883	9,637	13,531
Hops, bales	276	534	601

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	92,776	1,081,928	411,675
Wheat, ctls	386,417	1,536,698	1,871,989
Barley, ctls	238,827	1,023,680	424,913
Oats, ctls	132	5,752	4,592
Corn, ctls	179	3,615	4,067
Beans, sks	1,045	32,542	38,217
Hay, bales	278	6,368	6,605
Wool, lbs	.....	2,768,112	4,138,000
Hops, lbs	1,536	182,701	205,828
Honey, cases	3	215	1,481
Potatoes, pkgs	2,210	10,668	19,736

Grain Freights and Charters.

Additions to the grain loading fleet have not been so numerous as for a week or two preceding. There have not been many ships pressing for engagement, however, and freight rates have remained tolerably steady, the quotable range continuing about as last noted, with £1 8s 9d an extreme, more in accord with the views of ship owners than with the ideas of exporters, for handy iron ships under engagement for wheat loading and to take cargoes to Cork, for orders to United Kingdom, Havre, Antwerp or Dunkirk. Disengaged tonnage in harbor has been on the decrease, but this has been in a great measure offset by the additions to the deep-sea fleet heading this way.

Charters.

British ship Wilhelm Tell, 2932 tons, wheat and merchandise to Liverpool, £1 6s 3d.

British ship John Cooke, 1759 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d net.

British ship Blythewood, 1607 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 8s net—chartered prior to arrival.

British ship Dynomene, 1809 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7 6d—chartered prior to arrival.

French bark Louis Pasteur, 1471 tons, wheat, flour and merchandise to U. K., Havre, Antwerp or Dunkirk, £1 10s; direct port £1 8s 9d—chartered prior to arrival.

British ship Cawdor, 2355 tons, wheat to U. K., Havre, Antwerp or Dunkirk, at £1 7s 6d; direct port, £1 6s 3d; twenty lay days.

British ship Lord Cairns, 1311 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 10s; direct port, £1 8s 9d; option of Cape Town, £1 10s—chartered prior to arrival.

British bark Dunfion, 1538 tons, now at Victoria, wheat from this port to U. K., Havre, Antwerp or Dunkirk; £1 7s 6d net.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive.
1896	64,740	15,860	266,498
1895	52,182	14,658	354,924

Flour.

Trade in this product has not been very active the current week, and the market has not shown any particular firmness. Offerings have lately kept steadily ahead of actual requirements, and only in exceptional cases, where buyers insisted on special brands having a high reputation or being in light stock, were sellers able to be exacting and to command full current rates.

Superfine, lower grades	$2 25@ —
Superfine, good to choice	2 40@2 50
Country grades, extras	2 85@3 15
Choice and extra choice	3 15@3 35
Fancy brands, jobbing	3 35@3 60
Oregon, Bakers' extra	2 75@3 00
Walla Walla, Bakers' extra	2 75@3 00

Wheat.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	5s 0d@5s 1d.	5s 6d@5s 7d.
Freigbt rates,	30½@—s.	26¼@28¾s.
Local market,	$0.90@93¼	$0.96¼@98¾.

The prices above are for spot lots of standard No. 1 California in Liverpool, and for good to choice shipping in this city.

The annexed paragraph is from the London *Statist* and will prove of interest to wheat growers:

From an interesting article by a Russian writer in a Frencb journal we learn tbat the agricultural industry in Russia is passing througb a very severe crisis, owing, in the first place, to tbe antiquated methods of farming still generally in use in Russia, and, secondly, to the very low prices obtainable for grain during the past few years. Strangc to say, it is tbe large class of farmers which has suffered most, tbe small peasant farmers being said to have done very well, wbile their larger neigbbors have been practically ruined. There has, in consequence, been a good deal of cutting of big farms into small ones, a process which the writer in question believes will continue, and that consequently wheat growing, wbicb bas been so unprofitable of late ycars, will, to a great extent, be neglected in favor of the cultivation of linseed, beet and fruit. In course of time, in fact, it is regarded as possible that Russia, wbicb at present exports from 16,000,000 to 18,000,000 quarters of wheat per annum, will simply grow sufficient for her bome consumption.

STOCKS OF GRAIN.

Stocks of grain in Call Board warehouses on August 1st aand September 1st:

Tons—	Aug. 1st.	Sept. 1st.
Wheat	47,540	*93,486
Barley	7,322	9,365
Oats	1,072	1,323
Corn	1,378	1,690

*Including 47,670 tons at Port Costa and 44,635 tons at Stockton.

Stocks of wheat in Call Board warehouses on 1st inst. show an increase of 45,946 tons for the month of August. A year ago there were 249,552 tons of wheat in Call Board warehouses.

There was a fair amount of business done in spot wheat, principally on export account, and at tolerably good figures as compared with prices which had been ruling, but the general tone of the market was less buoyant than immediately prior to date of last review. The advance in speculative values was not maintained, options receding about 1½ per cental. The option market was influenced largely by Chicago, where the declines were relatively greater than they were here, but values in Liverpool did not show any considerable fluctuation or depreciation, and as we have to depend upon Europe for an outlet for our surplus, it is but natural that prices in Liverpool should be more of a basis for values here than figures current in Chicago and New York. Deliveries have been moderately active at Port Costa, with considerable of a fleet loading there for European ports. December wheat declined at the close of last week to 99¼c, but good to choice shipping wheat remained quotable at 96¼@98¾c delivered alongside. In the fore part of the current calendar week there was little change in the situation, although a slightly easier feeling, holiday observances interfering with trade.

California Milling, old	$ 97½@1 02½
Cal. No. 1 shipping, alongside	96¼@ 97½
Oregon Valley	95 @1 00
Walla Walla Blue Stem	90 @1 00
Walla Walla Club	85 @ 95

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, 98⅞c@99¾.

May, 1897, delivery, $1.03½@——.

Tuesday, at regular noon session of Call Board, December wheat sold at 98⅞@99¼c; May, $——.

Barley.

Further shipments of barley have gone afloat this week for Europe, both Chevalier and Brewing. Values for desirable shipping grades were tolerably well sustained, the quotable range showing no material change. Stocks of high-grade barley bid fair to be reduced to rather small proportions long before the season closes. Local consumers of Brewing qualities are not stocking up heavily at present, in many instances lack of ready coin being the principal cause for the tardiness in operating. Feed descriptions were in more than ample supply to accommodate the immediate inquiry, and the tendency was most of the time in favor of the buying interest. Call Board business was of a light order, and options sold at a slightly lower range than during preceding week.

Feed, No. 1 to cboice	63¾@65
Feed, fair to good	60 @62½
Brewing, No. 1 to cboice new	72½@77½
Cbevalier, No. 1 to choice	85 @95
Cbevalier, No. 2	60 @75

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, 66⅞@68¼c; May, 1897, delivery, ——@——c.

Tuesday at regular noon session of the Call Board, December feed sold at 67@66⅞c.; seller 1896 at 62¼@62⅛c.

Oats.

Stocks in the hands of jobbers and in the warehouses in this center are comparatively light. Supplies of last crop have been worked down to tolerably small compass, and no heavy quantities of new crop have yet come forward. Market presents a moderately firm tone for all descriptions, but more particularly for choice to select. Grays were in especially light stock, and Surprise oats of fine quality were difficult to secure.

White Oats, fancy feed	92½@ 95
White, good to choice	85 @ 90
White, poor to fair	75 @ 82½
Gray, common to choice	82½@ 90
Milling	85 @ 90
Surprise, good to cboice	95 @1 02½
New crop Cal. Oats	75 @ 87½

Corn.

This market has developed little change the current week. Large white continued in heavier stock than either large or small yellow. Values for all descriptions are lacking in firmness. Demand is slow and almost wholly on local account. There is some Eastern yellow still in stock, but there is little likelihood of further heavy importations, as prices East have been lately above the parity of values current here.

Large Wbite, good to cboice	75 @ 77½
Large Yellow	85 @ 87½
Small Yellow	87½@ 90

Rye.

Demand is slow and there is little prospect of activity being experienced in the near future. Market is weak.

Good to cboice, old	67½@ 70
Good to cboice, new	65 @ 67½

Buckwheat.

Same inactivity as previously noted. Not much offering, but in the absence of buyers the quantity is too large.

Good to cboice	90 @ 95

Beans.

The following is a New York review of the Eastern bean market. Prices given are per bushel of 60 lbs:

Tbe little upward turn in the market tbis week is greatly appreciated after the long period of depression and low prices. The improvement bas not been very great as yet, but it indicates a healthier condition of affairs and is the basis of a firm bope that somewhat brigbter days are in store for the bean trade. Advices from the interior of this State and Canada bave continued strong, reporting a considerable reduction in the prospective yield of tbe incoming crop, and a more reserved offering on the part of botb farmers and dealers. Receipts here have been very moderate and there has been quite a reduction of tbe local bolders. It is too early for mucb expansion of tbe bome trade, but export orders bave been on a larger scale, and this has been the cbief sourceof strength. Shippers began buying Marrow beans quite freely early in the week and the price was advanced to $1.20 at once; since then tbere has been a firm market, but without further quotable cbange, though a few fancy marks in large size barrels are held bigher. Medium bave sold in range of $1.00@1.05, with the outside figure now generally asked. Best State Pea are firm at $1.05, but some useful Michigan stock can be bougbt 2½@5c less. Wbite Kidney are steadier at the close. Quite a good many Red Kidney bave been taken for export and cboice stock in shipping order advanced 5c. Yellow Eye dull. The demand for Turtle Soup appears to be supplied at present, and though tbe quantity of stock remaining unsold is light tbe feeling is slightly easier. The ship E. O'Brien with 12,164 bags beans has arrived from California; they are mostly Pea and Lady Washington and have not had sufficient sales to fairly establish values. Lima dragging at easier price. Further considerable lots of old foreign beans have been brought in bond for reshipment to Europe; prices paid were about 55@60c for Pea, and 65c@70c for Medium. Green peas still have slow sale.

Much the same conditions prevail as last quoted. The improved feeling on the Atlantic side has not yet been reflected in the bean market in this center. White varieties are receiving very little call from any quarter. Limas are being held slightly firmer at points of production, but this is not attributable to any material decrease lately in spot stocks, or to any prospective shortage in the supply, although this year's yield may turn out lighter than first anticipated. Colored descriptions are ruling steady at the low figures which have been lately current. Should the bean markets in Eastern centers continue to develop firmness, more encouraging prices for the producing and selling interest may soon be realized in this center.

Pea, fair to good, 100 lbs	$1 20 @1 35
Small Wbite, good to choice	90 @1 05
Lady Washington	75 @1 00
Butter, small	1 10 @1 25
Pinks	75 @ 85
Bayos, good to choice	1 00 @1 15
Reds	1 20 @1 30
Red Kidneys	1 25 @1 50
Limas, good to cboice	1 75 @1 90
Black-eye Beans	1 25 @1 50

Dried Peas.

Nothing new to note. Demand and supplies are both of insignificant proportions.

Green Peas, California	$1 15 @1 30
Niles Peas	1 20 @——

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Wool.

The wool trade in this center is as devoid of encouraging or interesting feature as at any previous date for several months past. There are virtually no buyers, and holders are making little or no efforts to effect sales, finding such attempts in most cases a sheer waste of time. Quotations remain nominally as before, but are based on asking rates. It is to be sincerely hoped that the improved feeling on the Atlantic side may soon find its way to this coast, as such would prove very acceptable to the grower, dealer and all here concerned in wool. The business transacted East has been mainly of a speculative character, some dealers being willing to discount the future and take the chances.

SPRING.

Humboldt and Mendocino	10 @12
Northern California free	— @—
Northern defective	5½@ 7
San Joaquin Footbill, good to cboice	6 @ 7½
San Joaquin, 12 montbs	4 @ 6½
San Joaquin and Soutbern, 6 montbs	4 @ 6
Nevada, as to condition	7 @ 9
Oregon Valley, select	9 @10½
Oregon Valley, low grade	8 @ 9½

Hops.

New York advices by mail furnish the following concerning the hop market:

The condition of tbe local market is unchanged. There is no improvement in the demand from any source and quotations must still be regarded as largely nominal. A few lots of new seedlings have been sbipped to Europe this week, probably in tbe hope of finding a place for them at a profit over country cost, but so far as we can judge from late mail and cable advices England does not need stock from bere just now. According to tbe London *Brewers' Journal* tbe outlook is for £226,000 old duty against about £238,000 last year. Germany is expected to bave a good crop, both as to quantity and quality. Our bome brewers are very indifferent buyers; they bave good stocks of 1895 bops on hand, and have rarely if ever shown so little interest in the new crop. About all of the seedlings in tbis State bave been picked, but not much done on tbe main crop, growers finding tbe bops rather green.

There seems to be every indication that low and unremunerative prices for hops will continue to prevail this season. There are reports of new crop being obtainable down to 4c or, in other words, barely enough to cover cost of picking, curing and baling—the farmer giving the hops away for the privilege of securing the job of picking and curing. Samples of new are beginning to arrive.

Fair to cboice, 1895 crop	2 @4

Hay and Straw.

There is more hay still coming forward than is warranted by the immediate demand. Offerings are entirely too heavy to admit of the market developing any firmness. Considering the heavy quantities which have been arriving lately and the decreased consumption, values are being about as well sustained as could be reasonably expected. Straw is not receiving much attention, despite very low figures current on the same.

NEW HAY.

Wbeat	6 50@10 00
Wheat and Oat	6 50@ 9 00
Oat	5 00@ 7 00
Barley	5 00@ 7 50
Clover	5 00@ 7 00
Stock Hay	4 00@ 5 00
Alfalfa, first cutting	4 00@ 5 00
Alfalfa, second cutting	5 50@ 6 50
Straw, ℔ bale	25@ 35

Millstuffs.

A little easier tone has been experienced in the market for bran and middlings. In values for other millstuffs there are no noteworthy changes to record.

Bran, ℔ ton	11 00@13 00
Middlings	14 00@16 50
Barley, Rolled	14 50@15 00
Cornmeal	19 50@20 00
Cracked Corn	20 50@— —

Bags and Bagging.

Grain bag trade is exceedingly light, as is usually the case at this advanced stage of the season. Most of the grain bags now on hand will doubtless be carried into next year. Contracting for 1897 importation of Calcuttas has already begun, but not in a manner to enable giving quotations. Market for wool sacks is quiet and easy in tone.

Grain bags, 22x36, spot	4¼@ 4½
Wool sacks, 4 lb	28 @—
Wool sacks, 3½ lb	26 @—
Gunnies	12 @—
Bean bags	4 @ 4¼
Fruit sacks, cotton	5½@ 7½

Hides, Pelts and Tallow.

Not much doing in this line, and absence of

strength remains, as for some time past, the most conspicuous feature. Values continue quotably as last noted.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	6 @ —	5 @ 5½
Medium Steers, 48 to 56 lbs	-- @ 5	4 @ 4½
Light Steers, under 48 lbs	4 @ —	3 @ 3½
Heavy Cow Hides, over 50 lbs.	4 @ 4½	— @ 4
Light Cow Hides, under 50 lbs.	4 @ —	3 @ 3½
Wet Salted Kip	— @ 4	— @ 3
Wet Salted Veal	— @ 5	— @ 4
Wet Salted Calf	— @ 6	— @ 5
Dry Hides, round lots, 7½@9c	9 @ 9½	— @ 7
Dry Kip and Veal, 11 to 16 lbs	7 @ 8	— @ 6
Dry Calf, under 4 lbs	12 @14	8 @ 9

Horse Hides, large	75@1 00
Horse Hides, medium	50@ 75
Horse Hides, small	25@ 50
Colts' Hides	—@ 25
Pelts, long wool, per skin	50 @60
Pelts, medium, per skin	40 @50
Pelts, short wool, per skin	20 @35½
Pelts, shearling, per skin	10 @15½
Deer Skins, best summer	20 @22½
Deer Skins, good medium	15 @17½
Deer Skins, thin winter	7 @10
Elk Hides	8 @ 9
Tallow, good quality	2¼@ 2½
Tallow, No. 2	— @ 2
Goat Skins, perfect	20 @35
Goat Skins, damaged	10 @20
Kid Skins	5 @ —

Seeds.

New-crop mustard seed is offering in light quantity, but not much business has yet been effected in this season's product. Values are in consequence not very well defined. Choice of either Yellow or Brown would probably command above quotations, but the quality this season is below the average, and there is very little which would pass muster as choice. Flax seed is again marked down, buyers here being compelled to reduce bids in order to be able to compete with Eastern mills, which are offering the oil at very low figures.

	Per ctl.
Mustard, Yellow	1 50@1 75
Mustard, Trieste Seed	2 60@2 75
Mustard, Wild Brown	1 75@2 25
Flax	1 25@1 30
	Per lb.
Canary	2½@2¾
Rape	2 @2½
Hemp	3¼@3½
Alfalfa, Utah	—@ —

Honey.

Supplies in this center are of limited volume and are composed mainly of last season's Extracted, in connection with a little of this year's Comb. Business is slow. Prices are too high for any export trade, and very little is required to satisfy the local demand.

White Comb, 1-lb frames	10 @—
Amber Comb	7½@ 9
Extracted, White Liquid	5 @ 5½
Extracted, Light Amber	4½@ 4¾
Amber Colored and Candied	3¾@ 4
Dark Tule	2¾@ 3

Beeswax.

Sales are not numerous, nor do they aggregate any large quantity. Market is moderately firm for strictly choice, light-colored, but where the quality is faulty, buyers are not readily found.

Fair to choice, ₱ lb	23@26

Live Stock and Meats.

Market for hogs has shown no improvement since last review. It is not probable, however, that values will go much lower. Prices for beef and mutton have ruled fairly steady at the low range current. Following are wholesale rates:

Beef, 1st quality, dressed, net ₱ lb	4½@ 5
Beef, 2d quality	4 @ 4½
Beef, 3d quality	3½@—
Mutton—ewes, 4@4½c; wethers	4½@ 5
Hogs, hard grain fed, light fat	2⅞@—
Hogs, large hard	2⅝@ 2¾
Hogs, soft and feeders	— @—
Hogs, country dressed	4 @—
Veal, small, ₱ lb	5 @ 6
Lamb, spring, ₱ lb	5 @ 6

Poultry.

Two carloads of Eastern poultry have arrived since last review, and there were moderately free receipts of California and Oregon stock. Demand was hardly so active as during preceding week, and market was in the main less favorable to sellers. Weakness was most pronounced on ducks and fryers. The demand for small young chickens was mainly for broilers. Many of the ducks arriving lately have shown diseased condition, and on this account have been in poor favor. Large and fat fowls of nearly every kind, especially hens and geese, were in slim supply and in good request, commanding in a good many instances more than it was advisable to quote in a regular way.

Turkeys, live hens, ₱ lb	12@ 13
Turkeys, live gobblers	14@ 15
Turkeys, large young	14@ 16
Hens, Cal., ₱ doz	4 00@5 00
Roosters, old	4 00@4 50
Roosters, young, (full-grown)	4 00@5 00
Fryers	2 75@3 00
Broilers, large	2 50@3 00
Broilers, small	2 25@2 50
Ducks, young, ₱ doz	3 50@4 00
Ducks, old	3 00@3 50
Geese, ₱ pair	1 00@1 25
Goslings, ₱ pair	1 25@1 50
Pigeons, Old, ₱ doz	1 50@ —
Pigeons, Young	1 50@1 75

Butter.

Prices for fresh butter were again marked upward this week, with market tolerably firm at the improved figures for such qualities as were really desirable. Receipts of fresh were rather light, and did not include a large percentage of what could be termed choice to select. Ordinary qualities did not show any very marked appreciation in values, such having to come into close competition with packed. Owing to the advanced prices established for best grades of fresh, packed descriptions are receiving more attention, with offerings of the latter fully equal to the demand.

Creamery extras, ₱ lb	25 @27
Creamery firsts	24 @25
Creamery seconds	21 @23
Dairy select	23 @24
Dairy seconds	18 @21
Dairy, soft and weedy	— @—
Mixed store	11 @13
Creamery in tubs	15 @16
Pickled roll	15 @16
Dairy in tubs	14 @15
Firkin, Cal., choice to select	14 @15
Firkin, common to fair	11 @12½

Cheese.

There are no heavy supplies, but of well seasoned cheese there is more than enough to accommodate all buyers. Mild new of rich flavor is in quite limited stock, but even for this description there is no very active inquiry at the full current rates now generally demanded.

California fancy flat, new	8½@ 9½
California, good to choice	7½@ 8½
California, fair to good	7 @ 8
California, "Young Americas"	8 @10

Eggs.

For such qualities as were practically faultless there was no lack of custom, market ruling firm at about same quotable range as last noted, with some sales of strictly fancy stock at an advance on quotations. Small, dirty, stale or otherwise faulty eggs, from either ranch or interior stores, were slow of sale at a low range of prices. Eastern were in quite liberal supply and were given the preference over common domestic.

California, select, large white and fresh	24 @—
California, select, irregular color & size	18 @22
California, good to choice store	14 @17
California, common to fair store	11 @13
Oregon, prime	16 @18
Eastern, as to section and grading	15 @18
Eastern, seconds	11 @14
Duck eggs	17 @18

Vegetables.

Changes in quotable values in this department have not been numerous or pronounced since last issue. Most kinds have been in sufficient stock to cause easy prices to rule. Onions remained plentiful and cheap. Tomatoes sold at decidedly low figures, particularly where the quality was the least faulty.

Asparagus, Fancy, ₱ box	— —@— —
Asparagus, common to good, ₱ box	— —@— —
Beans, String, ₱ sack	50@ 1 00
Beans, Wax, ₱ lb	1½@ 3
Beans, Garden, ₱ lb	2@ 3
Beans, Lima, ₱ lb	1½@ 3
Cabbage, choice garden, ₱ 100	50@ 60
Cauliflower, ₱ doz	40@ 50
Corn, Alameda Sweet, ₱ crate	1 00@ 1 25
Corn, Berkeley, ₱ crate	65@ 1 00
Corn, Green, ₱ sack	50@ 75
Corn, Vacaville and Winters, ₱ crate	— —@— —
Cucumbers, Alameda, large box	10@ 25
Egg Plant, ₱ box	25@ 40
Garlic, ₱ lb	1@ 2
Okra, Green, ₱ box	25@ 40
Onions, Red, ₱ cental	—@ —
Onions, Yellow, good to choice	30@ 37½
Peas, Green, ₱ sack	50@ 1 00
Peppers, Green Chile, ₱ box	25@ 50
Pepper, Bell, ₱ large box	40@ 50
Pickles, No. 1, ₱ 100 lbs	75@ 1 25
Pickles, No. 2, ₱ 100 lbs	40@ 50
Rhubarb, ₱ box	—@ —
Squash, Bay, ₱ large box	15@ 25
Tomatoes, River, per large box	15@ 25
Tomatoes, Bay, ₱ box	15@ 35

Potatoes.

With not much outside demand and the inquiry on local account of a slow order most of the week, the potato market did not display any special firmness. Some select qualities of Burbank seedlings sold to fairly good advantage, and brought top quotations more readily than the lower range of prices was realized on ordinary qualities. Sweets were in fair supply. They sold at a little wider range than last quoted.

IN SACKS.

Early Rose, River, ₱ cental	30@ 40
Peerless, River	—@ —
Garnet Chile, Mission	50@ 60
Burbanks, River	30@ 40
Burbanks, Salinas	60@ 90
Sweet Potatoes	75@1 25

The Fruit Market.

Fresh Fruits.

There was no glut of choice to select qualities of deciduous fruits of any description now in season, but of qualities under choice there was of some sorts, notably of peaches and grapes, more than could be conveniently placed. The demand from canners was less active than for a week or two previous and was confined mainly to fruit of high grade, which was somewhat difficult to obtain in anything like wholesale quantity. The trouble nearly the entire season has been that there was a superabundance of fair to good and a scarcity of choice to fancy.

The above drawback is now being experienced in the apple market, with prospects of the condition so continuing throughout the season, so far as the California crop is concerned. Oregon and Washington may furnish this market with some fine stock later on, and there is probability of Eastern apples arriving here in considerable quantity this season, the Eastern crop being reported large and of No. 1 quality in most localities.

Pears are now in light stock, with few Bartletts coming forward—the only summer variety which can be said to be in favor with any class of consumers. Large and hard Bartletts, free from worms, scale or other serious defect, would still command good figures were such pears obtainable. Other varieties now coming forward, although in light receipt, are not receiving any marked attention from shippers or retailers.

A few peaches of very superior quality are arriving, mainly from the mountain districts, and such are being favored with a firm market. The supply of common qualities was considerably larger than the demand.

Plums were not in large receipt, and no heavy arrivals of this fruit are anticipated during the balance of the season, but owing to limited inquiry, prices continued at a rather low range.

Prunes were in fair supply, and would have arrived more freely, had there been any encouragement to shippers. Buyers took hold slowly, and in most instances refused to operate at other than low prices.

Figs are still offering in moderate quantity, and market favors buyers, as this fruit is not in great favor with consumers at this late date.

Grapes are arriving more freely, but there are not as yet very many of really choice quality on market. On common grades the situation was decidedly favorable to the buying interest. On the other hand, some of very superior quality brought comparatively stiff prices and an advance on quotable values.

Watermelons were fully as plentiful and cheap as previously noted. The demand was less active, the weather being cooler.

Cantaloupes ruled a little more in sellers' favor than last quoted. Market for nutmeg melons was fairly steady at the low prices ruling.

The berry market was lightly stocked with all descriptions, and the tendency was to better prices. Strawberries were especially in slim receipt, and Longworths were in request at an advance.

Apples, Gravenstein, fancy, 4-tier	1 00@ 1 25
Apples, Gravenstein, 50-lb box	60@ 90
Apples, Belleflower, 50-lb box	50@ 1 00
Apples, Green, ₱ 50-lb box	30@ 65
Crabapples, ₱ box	35@ 50
Figs, Black, ₱ 2-tier 15-lb box	50@ 75
Figs, Black, ₱ 1-tier box	30@ 50
Figs, White, ₱ box	30@ 50
Nectarines, Red, ₱ box	—@ —
Nectarines, White, ₱ box	—@ —
Prunes, Falkenburg, ₱ crate	50@ 65
Prunes, Hungarian, ₱ box	40@ 50
Prunes, German, ₱ box	35@ 40
Peaches, fancy wrapped, ₱ box	50@ 75
Peaches, good to choice, ₱ box	35@ 60
Peaches, Cling, per ton	15 00@30 00
Pears, Bartlett, ₱ ton	10 00@20 00
Pears, Bartlett, No. 1, per box	40@ 60
Pears, Bartlett, No. 2, per box	25@ 35
Pears, other kinds, ₱ box	15@ 50
Plums, choice, large, ₱ box	40@ 60
Plums, other kinds, lb box	25@ 40
Plums, ₱ crate	40@ 75
Nutmeg melons, ₱ box	25@ 50
Watermelons, per 100	3 00@ 7 00
Canteloupes, per crate	50@ 1 00

Berries.

Blackberries, ₱ chest	2 50@ 3 50
Currants, Red, ₱ chest	— —@— —
Raspberries, ₱ chest	3 50@ 5 00
Strawberries, Longworth, ₱ chest	5 50@ 7 00
Strawberries, Large, ₱ chest	2 50@ 4 00
Whortleberries, ₱ lb	6@ 8

Grapes.

Black Hamburg, ₱ box	35@ 50
Fontainebleau, Cal., per crate	25@ 40
Fontainebleau, Cal., per box	20@ 35
Muscat, per box	40@ 50
Muscat, ₱ crate	50@ 60
Rose of Peru, ₱ box	40@ 50
Rose of Peru, ₱ crate	50@ 60
Royal Isabella, ₱ crate	1 50@ 2 00
Seedless Sultana, ₱ box	40@ 50
Tokay, ₱ crate	65@ 75
Zinfandel, ₱ ton	15 00@20 00

Dried Fruit.

The Eastern dried fruit market is thus reported by a New York authority:

Thus far only small lots of new evaporated apples have arrived, and not enough sales effected to fairly determine values; a few parcels were placed in a jobbing way at 4@5c as to quality, but fancy fruit will bring more when it is wanted. Every indication points to an abundance of stock of good quality, and a large trade will result. It is still too early for buyers to be much interested in spot goods, and there is less disposition to trade on contracts for future delivery. Old evaporated work out slowly in a smallish way, and the feeling is weak; for prime and lower grades there is urgency to sell. New chops are offering with more reserve; 1¾c bid for prime heavy packed stock, October delivery. Cores and skins have very little call. For sun-dried sliced and coarse cut apples the demand continues slack, but prices are thought to be so low that holders do not feel much anxiety about them. Peaches wholly nominal. Fair receipts of raspberries for the season, and the only demand is for small lots to job out; just enough pressure to sell to keep values unsettled. Cherries quiet. Huckleberries not plenty, and steady. Small lots of blackberries have sold at 4½@5c. Apricots moving out fairly at 8@9c, generally for Royals. Prunes in reasonably good demand.

No great volume of business is reported in this center, still the market is by no means stagnant. The weakness which exists is confined principally to the more common qualities, the proportion of offerings of this sort being larger than in most former seasons.

Apricots are ruling firmer, with most of this season's output already marketed. Choice to select, particularly Moorparks, are now offering so sparingly that they are hardly quotable.

Peaches are going at a wide range, owing to great difference in quality of offerings. Choice to select are most readily salable, even at the higher figures current, as is almost invariably the case. For the cheaper grades the market is devoid of firmness.

Prunes of last crop are now in light stock. Prices for forward delivery remain steady, with no advices of any very active business in the way of contracting.

In offerings on the street of this season's curing are noticed some pears of very superior quality, and some white figs of high grade, the latter comparing very favorably with the imported from Smyrna.

Apples of last season's curing are nearly out of stock, and it is too early for spot supplies of any consequence of this year's yield. Market continues to present a firm tone for early deliveries of choice new. The large crop of apples East will prove a check however, to any very radical advances in prices here.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	6½ @ 7
Apricots, Royal, fancy	7 @ 8
Apricots, Moorpark	10 @11
Apples, in boxes	5 @ 5½
Nectarines, White	4½@ 5
Nectarines, Red	3½@ 4
Peaches, unpeeled, prime to choice	3 @ 5
Peaches, unpeeled, choice and fancy	5 @ 6½
Peaches, peeled, in boxes	9 @12
Pears, peeled and sliced	4 @ —
Pears, halved, unpeeled Bartletts	5 @ 6
Pears, quartered, unpeeled Bartlet's	4 @ 5
Plums, pitted	3½@ 5
Prunes, in sacks, 4 sizes	2¾@ 3
Prunes, in sacks, small sizes	1½@ 2

COMMON SUN-DRIED.

Apricots, ordinary	— @ —
Apples, sliced	2 @ 2½
Apples, quartered	2¼@ 3
Figs, Black	1½@ 2½
Figs, White	3 @ 4
Peaches, unpeeled	3 @ 3½
Plums, unpitted	1 @ 1½

Raisins.

Business in spot supplies is necessarily insignificant, owing to the very limited quantity of last season's yield now remaining unplaced. For new raisins to arrive the market shows a moderately firm tone, changes in quotable values being mainly to higher figures. Outside quotations are based on jobbing rates.

FIRST HALF OCTOBER SHIPMENTS.

Imperial Clusters, per box	2 50 @ —
Dehesa Clusters, per box	1 75@ 2 25
Fancy Clusters, per box	1 40@ 1 50
Boxes, London layers, 20-lb box	1 05@ 1 10
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ₱ lb	4 @4½
Loose Muscatel, 3-crown	3¼@3¾
Loose Muscatel, 2-crown	2¾@ 3
Sultanas	4 @ 5
Seedless Muscatel	2½@3½
Dried Grapes	2½@3½

Citrus Fruit.

Lemons have not been selling so freely as during preceding week, and market was somewhat easier in tone, although quotable rates developed no pronounced changes. Buyers in search of choice to select were not able to ob-

SPECIAL. A lot of handsome new leather quarter-top piano-box Buggies just arrived; very cheap in price. Write for description and prices.

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tain any very great concessions in their favor. Limes were not in heavy stock, and had as a rule to be re-sorted to be fit for shipment.

Oranges—Wash. Navels, ℔ box	— —@— —
Cal. Mediterranean Sweet	1 50@ 2 00
Cal. Seedlings	— —@— —
Cal. Valencias	3 00@ 3 50
Lemons—Cal., select, ℔ box	3 00@ 3 50
Cal., good to choice	2 00@ 3 00
Cal., common to good	1 00@ 2 00
Limes—Mexican, ℔ box	5 50@ 7 00
Cal., small box	1 00@ 1 25

Nuts.

Few of any sort now on market. To secure new almonds to arrive, an advance on quotations would have to be paid. White walnuts of 1896 yield are expected to be offering tolerably freely at an early date, with the quality above the average, but values for the same have not yet been determined.

California Almonds, paper shell	7½@ 8½
California Almonds, soft shell	4 @ 6½
California Almonds, standard	3 @ 3½
California Almonds, hard shell	2 @ 2½
Walnuts White, paper shell	11 @12
Walnuts White, soft shell	9 @10
Walnuts White, Cal., hard shell	7 @ 7½
Peanuts, Cal., fair to prime	4 @ 5
Peanuts, Eastern hand-picked	5½@ 6½
Pine Nuts	12 @15

California Fruit Sales.

CHICAGO, September 2.—California fruit sold today as follows: Grapes—Tokay, $1.35@2.10; Muscatel, $1.35@1.40; Malaga, 85c@$1.20. Pears—Bartlett, $1.25@1.40. Peaches—Salway, $1.05; Picquet's Late, $1.05.

NEW YORK, September 2.—California fruit sold to-day as follows: Grapes—Tokay, $1.45@2 95 per half crate; Muscatel, 80c@$1.70; Rose de Peru, 75c. Pears—Bartlett, $1@1.85. Prunes—German, $1.20 @1.30 per half crate; Gros, $1@1 30; Hungarians, $1.15@1.20. Nectarines — $1.20 per half crate. Peaches—Freestones, $1 per box; Susquehannas, 65c@$1; Smock's and Picquet's Late, 95c; Crawfords, 80@95c.

CHICAGO, September 3 —California fruit sold today as follows: Pears—Bartlett, $1.20@1.40. Plums —Egg, $1@1.15; Bradshaw, 75@80c; Eckwith, 90c. Prunes—Hungarian, $1.30. Gros, $1.30; Silver, 90c@ $1. Grapes—Tokay, $1 20@1.85; Malaga, 40@1 30. Peaches—Picquet's Late, $1; Salway, 85c; other varieties, 45@$1.

NEW YORK, September 3.—California fruit sold to-day as follows: Pears—Duchess, $1.65; Buerre Hardy, $1.20@1.35; Bartlett, $1.05@1.65. Plums—Egg, 80c@1 25; Kelsey, 85c@$1.35; Eckwith, 85c@ $1.25. Prunes—Gros, $1.10@1.40; Italian, $1.20; Fellenberg, $1 20; German, $1@1.25. Grapes—Tokay, $1.75; Sweetwater, $1.

CHICAGO, September 4.—California fruit sold today as fellows: Pears — Bartlett, $1.10@1.50. Peaches—Picquet's Late, 95c@$1; Orange Cling, 95c. Grapes—Tokay, $1.35@1.75; Muscat, $1.25@ 1.30; Malaga, 30c$@1.

NEW YORK, September 1.—California fruit sold to day as follows: Pears—Buerre Hardy, $1.10@ 1 20 per box.

CHICAGO, September 7.—California fruit sold today as follows: Plums—Japan, $1.75@3 per half crate. Grapes—Tokay, $1@2 per half crate; Muscats, 70c@$1.35; Rose de Peru, 50c. Prunes—Gros and Hungarian, $1.55 per half crate; German, $1.40; Silver, $1.15@1 20; French, 65c. Pears—Bartlett, $1.10@1.55 per box and 50@60c per half box.

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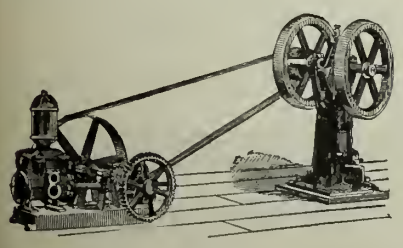

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312 and 314 Market St., San Francisco, Cal.

Patrons of Husbandry.

San Jose Grange.

(Mercury, 6th inst.)

The meeting of the San Jose Grange was largely attended yesterday. Worthy Master Saunders presided.

The attention of the Grange was called to a recent resolution of the Tulare Grange favoring the removal of the State Agricultural College from Berkeley to San Jose, Los Angeles or some other city of California. It was stated that it was the experience in the past that agricultural colleges could not do satisfacnory and practical work when connected with classical colleges.

The California State Agricultural College, with its connection with the University of California at Berkeley, was urged to be no exception to the rule. Its work was stated to be of little value to the agricultural interests of the State, and the San Jose Grange passed a resolution favoring removal similar to that of the Tulare Grange.

The Young Ladies' Day exercises under the direction of Mrs. S. A. Durkee, were very fine.

Grange Work in Sonoma.

(Santa Rosa *Farmer*.)

D. M. Winans, Master of Pomona Grange, passed through Santa Rosa Monday on his way to Occidental, where, as State Organizer, he expects to establish a new Grange.

Great interest is being taken in Grange work this year in the East and in California as well. The vast amount of good that has been accomplished by the San Jose Grange in advancing the interests of the fruit grower by development of the co-operative principle of curing and marketing fruit has been beneficial to the Order.

There is a fair prospect of Granges being organized in Sonoma and Geyserville, and Forestville may fall into line.

Co-operation is highly beneficial and greater interest should be shown in establishing and supporting Granges throughout the State.

In Memory of Late Bro. Ohleyer.

TO THE EDITOR: — At the last meeting of Danville Grange, Bro. D. N. Sherburne introduced the following resolutions in memory of Bro. George Ohleyer, which were adopted by the Grange and sent to you for publication:

WHEREAS, We are called to mourn the death of our brother, the Hon. George Ohleyer, W. L. Cal. State Grange, who departed this life on August 15th;

Resolved, That in our great loss we can hardly realize that our brother is gone, and that we can no longer look to him for counsel and advice. Our loss is truly great, both in and out of the Order. We mourn for one whose life was spent in the service of his fellow men, a leader worthy to be followed, reliable in every condition of life, with great ability, honesty and integrity.

Resolved, That the sincere sympathy of Danville Grange is tendered to the bereaved family, and that our altar and charter be draped, and we wear the badge of mourning for sixty days. Fraternally yours,

S. E. WOOD, Sec. Danville Grange.

Danville, Sept. 7, 1896.

Rural Free Mail Delivery and the Ten-Block System.

Postmaster-General Wannamaker was much interested in the ten-block system of numbering country houses, and considered it almost, if not quite, essential in connecting with free delivery of mail matter in the country.

About $40,000 is now available by the Postoffice Department for use in experiments in this direction.

A printed explanation of the ten-block system was recently sent to the present head of postal affairs, who, in reply, under date of July 28th, writes:

I am in receipt of yours, containing an explanation of the ten-block system in connection with the numbering of country houses, and will say that your suggestion shall have consideration in connection with the proposed experiment with rural free delivery. Very truly yours,

WM. L. WILSON, Postmaster-General.

A movement is now on foot to secure free mail delivery for central Contra Costa, where the system was first established. They hope to be successful over other localities because of the fact that the system is already established there and they are now entirely ready for the experiment. If they succeed—and they should do so—they may thank the few progressive, energetic people who secured this advantage for their county in advance of other sections.

Deafness Cannot be Cured

by local applications, as they cannot reach the diseased portion of the ear. There is only one way to cure deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian Tube. When this tube is inflamed you have a rumbling sound or imperfect hearing, and when it is entirely closed Deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever. Nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

We will give One Hundred Dollars for any case of Deafness (caused by catarrh) that cannot be cured by Hall's Catarrh Cure. Send for circular; free. F. J. CHEYNEY & CO., Toledo, O.

Sold by Druggists, 76c.

Friends Failed to Recognize Her.

MRS. HADIX SO CHANGED IN APPEARANCE THAT SHE HARDLY KNEW HERSELF.

She Says the Secret of the Great Change and Her Present Good Health is Due to the Use of Dr. Williams' Pink Pills. Other Prominent Citizens Testify to the Merits of this Remedy.

From the Call, San Francisco, Cal.

"You don't know me! Well, I am not surprised at that. I hardly know myself, and yet here I am full of life and vigor. Look at my arms, round, strong and healthy. The color of my cheeks show life and animation."

So spoke Mrs. Hadix, wife of Rev. E. Hadix, of Placerville, California, and "what has produced this wonderful change from almost death to healthful, active life?"

"Well, I will tell you; it was Pink Pills for Pale People. You will remember that for years I walked the streets a living skeleton—emaciated—weak, and a complete wreck. My flesh colorless, my nerves unstrung. I had no blood. If my flesh was punctured, a thin pink stain was all that could be produced. My physicians said there was no hope for me. My friends despaired of my recovery. I was sent to Sacramento where three of the most eminent physicians diagnosed my case, but they shook their heads and said they could not help me, and they refused to take my money as they could do me no good.

"My husband was sent for to say the last good-bye. When I lay on my couch to rest I felt as though I was sinking, down, down, down. I could not sleep, neither could I rest. When all hope from physicians was gone, I determined to try what virtue there was in Pink Pills for Pale People. I commenced taking them and soon began to improve. I continued their use with the result that to-day I am fully recovered to health and happiness, and this in less than six months from the time I commenced their use. All hail to Pink Pills for Pale People."

J. C. Stephens, another resident of Placerville, said: "I was afflicted with rheumatism for more than twenty years, and only with the greatest difficulty was I able to walk to my place of business, my hands were so stiff and swollen that I could hardly hold anything in them. When driving my team, I could not hold my whip. I saw in the San Francisco *Call* that a friend of mine had been cured of rheumatism by using Pink Pills. I commenced using them with the result that I am completely cured."

Mrs. J. G. Bailey was afflicted for a long time with kidney trouble and could not rest nights. She said: "I had heard so much about the wonders that Pink Pills had performed that I concluded to try them. I commenced taking them, and found immediate relief, sleep nicely, and in every way am greatly improved."

W. F. Fairchild is a druggist doing business in Placerville. He says he has been selling Pink Pills for Pale People for several years, and that his customers speak very highly of them, and sales have been more than doubled within the last six months, especially since the wonderful recovery of Mrs. Hadix, whose case was considered hopeless, and whose recovery by the use of Pink Pills was considered almost a miracle. The reputation of these pills is fully established for doing what they promise."

Dr. Williams' Pink Pills contain, in a condensed form, all the elements necessary to give new life and richness to the blood and restore shattered nerves. They are an unfailing specific for such diseases as locomotor ataxia, partial paralysis, St. Vitus' dance, sciatica, neuralgia, rheumatism, nervous headache, the after effect of la grippe, palpitation of the heart, pale and sallow complexions, all forms of weakness either in male or female. Pink Pills are sold by all dealers, or will be sent post paid on receipt of price, 50 cents a box, or six boxes for $2.50, by addressing Dr. Williams' Medicine Company, Schenectady, N. Y.

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56 First Street.....San Francisco, Cal.

RUSHFORD FARM..... WAGONS..

A Great Sacrifice Sale to Reduce Stock.

WE OFFER THE FOLLOWING SIZES BELOW COST:

FARM GEARS.

Cat. No.	Size Axle.	Style Axle.	Width Tire.	Capacity.
7 47	2⅛	Hollow Steel..	2 in.	2500 lbs.
5 47	2⅛	"	3 in.	2500 lbs.
4 48	2⅜	"	2½ in.	4000 lbs.
3 50	2⅞	"	4 in.	6500 lbs.
6 38	1¾	Concord Steel.	3 in.	4000 lbs.
1 40	2	"	2½ in.	6000 lbs.
1 40	2	"	3 in.	6000 lbs.
2 40	2	"	4 in.	6000 lbs.
8 18	3¼	Steel Skein...	2 in.	4000 lbs.
2 18	3¼	"	2¼ in.	4000 lbs.
8 19	3½	"	2¼ in.	5000 lbs.
4 19	3½	"	3 in.	5000 lbs.

All these wagons are fresh stock, fully guaranteed, and prices can't be duplicated.

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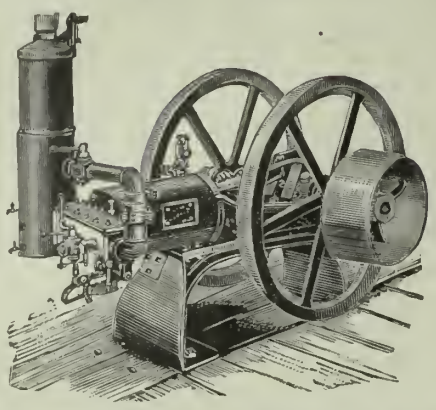

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Gasoline (74 deg.), ten hours' run, 8¾ gallons @ 14c.	1 25
Coal Oil, ten hours' run, 7½ gallons @ 10c.	75
Crude Petroleum, asphaltum base, 16 gallons @ 3c	48
Crude Petroleum (36 deg.), paraffine base, 13 gallons @ 5c	65

On the crude petroleum with asphaltum base we had an over-product of 7 gallons of asphaltum; the market price is 3 cents per gallon=21 cents. This deducted from the first cost of the crude petroleum for ten hours' run leaves a net balance of 27 cents. And from the crude oil with a paraffine base we had an over-product of 3 gallons of good lubricating oil, which we consider equal to any we have ever used, but will estimate its value conservatively at 20 cents per gallon, making 60 cents; this deducted from the first cost of the crude oil leaves a balance of 5 cents, total cost of running ten hours.

It will be readily seen that the operation of these Engines with crude petroleum reduces the cost of operation to a minimum. Crude petroleum with paraffine base at 1-10c per horse power per hour; on crude petroleum, asphaltum base, ¼c per horse power per hour; on domestic coal oil, 1½c per horse power per hour; and on gasoline, 2½c per horse power per hour.

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A Thriving Town of the Coast Region.

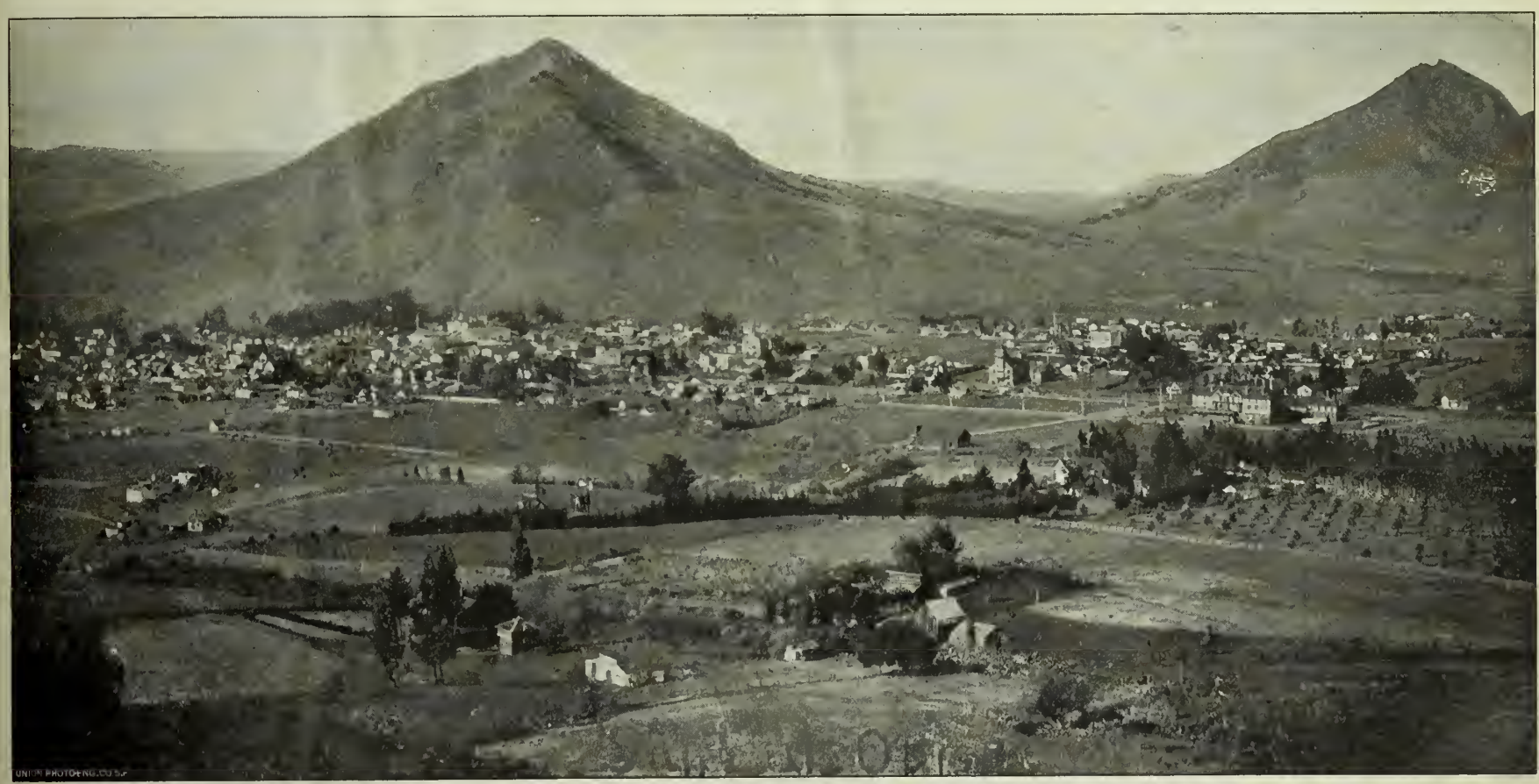
One of the most picturesquely situated towns in California is San Luis Obispo, of which a photographic view is given upon this page. Its situation is almost exactly central on the north and south coast line of the State and it is a few miles back from the beach behind sheltering hills, so that it enjoys modified coast influences, which are among the most charming of the many factors which enter into the formation of the local climates of California. San Luis Obispo is the county seat of one of our imperial counties, which bears the same name, and it has advanced rapidly during the last score of years, as might be expected when the progress and development of the resources of the county are borne in mind. For wide range of special adaptations and for suitability for mixed farming, San Luis Obispo, in her widely different regions, is especially endowed. It is only during more recent years that these natural resources have secured wide recognition and they now bid fair to greatly extend their fame, for the county is traversed by the new coast line of the Southern Pacific, and will soon charm the throngs who travel by the Southern Overland route. This new prominence in rail transportation, added to the previously existing advantage in water traffic, through the possession of the best natural harbor between San Francisco and San Diego, will constitute prime factors in the coming greatness of San Luis Obispo.

The town shown in the engraving is pleasantly situated at the base of the Santa Lucia range, at the junction of several valleys, about nine miles from the Bay of San Luis Obispo. It has good specimens of the buildings, enterprises and public institutions which go to make a busy and prosperous city. It has a history which claims the interest of the visitor. The locality was first visited by the Franciscan missionaries under Junipero Serra in 1769, and the Mission of San Luis Obispo de Tolosa founded September 2, 1772. Owing to the fertility of the soil of the region and the salubrity of the climate it became the richest of the California Missions, extensive orchards and olive groves were planted which flourished luxuriantly until recent years, when they have given way to the encroachments of the city.

So luxuriant was the growth and so beautiful the grove that it became a distinguishing feature of the place, and San Luis Obispo bore the sobriquet of "The City of the Olive Tree." The old Mission church, with a century of age, and its long wing used for residence of the priests and other purposes, still stands in the center of the city, a marked object of curious and reverent interest to the traveler. Some portions of the old building, or cluster of buildings, show the adobe and cement walls and tiled roof of the original structure.

On a slight elevation a few hundred yards from the Mission are mounds of earth forming a quadrangle, the remains of defensive works thrown up by Fremont in 1846 in his campaign in the conquest of California. These old footprints of history, so full of reminiscences of the distant past, should be preserved with care, as they become interesting with the progress of years.

The view presents the city as seen from a southerly direction. Beyond the picture on the right are the mountains through which the railway passes by means of a group of tunnels, recently completed after years of boring. Far away to the left, beyond hills, lies the broad Pacific. The high mound-like hills shown in the background are most interesting features of the outlook from windows of the city dwellings and are a constant delight to the sojourning guest at the Hotel Ramona, which appears on the picture. In the center of the cluster of buildings, left of the center, are the business streets with well stocked stores, for the city enjoys the trade of very wide tributary regions. In this locality also are the mission buildings hedged in by the extension of the city. The view which we give of this interesting city is reproduced from the pages of the San Luis Obispo *Tribune*, an enterprising journal which is doing much to secure wider recognition for the charms and merits of the county.



VIEW OF SAN LUIS OBISPO AND ITS ENVIRONS.

The State Fair.

This week ends the State Fair, and it is pleasant to hear as we go to press that there has been quite a notable rush to Sacramento to gain instruction and entertainment. All accounts are to the effect that this year's fair has been excellently handled by the management, but the hard times and political diversions seem to have restricted patronage somewhat. In view of this fact, the Sacramento city trustees have voted $400—the balance remaining in their immigration fund—to help the Directors of the Fair in meeting the expenses of the exhibition. It is quite fitting that Sacramento should make such a contribution.

The "in-operation" features of the fair have been very popular. The operating dairy both for butter and cheese has never lacked visitors and the "cooked dried fruit" of the State Board of Horticulture has been thronged by people who were eager for both fruit and published recipes for cooking it. The animal departments also have been popular. Poultry, swine and sheep have all been well represented. Of the larger stock we hope to have an account from an expert correspondent in an early issue.

THE *Delta* claims that the Bartlett pears shipped from Visalia have brought the best prices obtained on this kind of fruit in the State. On August 21st, a trainload of fruit was sold in New York, and the pears brought the following prices: Visalia Fruit and Land Company, $1.50 to $1.65; Wishon Bros., $1.65; S. B. Hunt, $1.70. The average price of Bartletts from other localities in the same market the same day was about $1.40.

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ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, September 19, 1896.

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The Week.

Weather and Crops.

It has been another week of meteorological quiet and the delicious weather of autumn has come. We get a good degree of heat and dry air, which favor fruit curing. Dry plowing is proceeding wherever such work is found of advantage, and the farmer generally finds plenty to do during the time he can spare from political discussions. We can only offer the advice that, in his zeal to save the country, he does not forget to save what property he has out from cover, for the prophets all say early rains and plenty of them.

The following data for the week ending 5 A. M. Wednesday, Sept. 16, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	.46	1.04	3.27	1 11	68	44
Red Bluff	T	.54	1.92	.44	90	52
Sacramento	....	.20	1 28	.26	*	50
San Francisco	.02	.15	.78	.20	68	52
Fresno	....	.20	.07	.17	92	54
San Luis Obispo	....	.24	T	*	92	46
Los Angeles	....	.07	T	.12	88	52
San Diego	....	.06	....	.12	78	58
Yuma	.12	.62	.01	.60	108	68

* Indicates no record.

Cattle Plague in Queensland.

Among the arrivals by the last Australian steamer was Dr. J. S. Hunt of Queensland, commissioned by his Government to investigate and find a remedy for the Texas fever, as it is known in the southern part of the United States, which has broken out among the cattle on the big ranches in northern Queensland.

"In Queensland, as in this country," said Dr. Hunt in a conversation last Friday, "the fever is caused by a tick. The parasite has only made its appearance recently, and where it came from no one knows. It has evidently come to stay, and has already caused a great deal of damage. The cattle are dying off by the hundreds in the northern part of the colony, and the people have had such a scare that the Government sent me here to make a study of the matter and find some remedy that will exterminate the pest.

"I find that the tick which has made its appearance on the cattle ranges of Queensland is not unlike the tick that cattlemen are fighting in Texas. Although another species, it is of the same genus. It is about as large as a person's little fingernail when fully inflated. The parasite burrows into the flesh of the cattle, keeping them poor and killing many of them. Dr. Francis of the Texas Agricultural College has made some extensive investigations into the habits and nature of the pest, and advocates the application of an oil for its suppression and annihilation. Various other remedies have also been suggested, but they are all, as far as I can ascertain, little better than experiments. Strict quarantine laws are enforced in Texas to prevent the spread of the fever, and I think we shall have to inaugurate a similar quarantine system in Queensland until some means of destroying the tick is discovered."

William Collins, an experienced and wealthy cattleman of Queensland, accompanied Mr. Hunt to Texas, and is still there pursuing an investigation of the tick plague on his own account.

Grain Conditions in the United States.

A Washington dispatch of the 10th inst. says: The September report of the statistician of the Department of Agriculture shows a decline in the condition of corn from the August statement of six points, or from 96 per cent in August to 91 per cent in September. The Pacific slope sends favorable reports. The general condition of wheat, considering both winter and spring varieties, when harvested was 74.6 per cent against 75.4 in 1895 and 73 in 1894. The reported condition for the principal wheat States are as follows: Ohio, 52; Michigan, 75; Indiana, 66; Illinois, 77; Wisconsin, 75; Minnesota, 80; Iowa, 84; Missouri, 73; Kansas, 70; Nebraska, 77; South Dakota, 76; North Dakota, 61; California, 100; Oregon, 68; Washington, 75. East of the Rocky mountains complaints of both quantity and quality of the wheat crop are almost universal. The Pacific slope suffered somewhat, chiefly from dry weather shrinking the grain, but not so generally as the central and eastern States. The European agent of the department reports a general reduction from early estimates of the wheat crop, owing to unfavorable weather, which was particularly bad at harvest time in central Europe, though fairly good westward. The quality of grain is reported high.

Prospects for a Short Wine Output.

An agent of the U. S. Revenue Office just returned from an official visit to the upper San Joaquin, has reached the conclusion that the sweet wine output of that section for 1896 will be less than half what it was for the season of 1895. This means that the sweet wine output will hardly reach the 2,000,000 gallon mark. The same territory last year produced 4,233,000 gallons of sweet wine. Dry wine making will be subjected to the same proportionate loss. In the Fresno district there are thirty-one sweet wine distilleries, and sixty in the entire district. These will not run over half time.

(Healdsburg *Enterprise*, 12th inst.)

At a meeting held Sunday, the heaviest wine makers in northern Sonoma county determined to fix the price of grapes this season at $15 for white varieties and the poorer quality of wine grapes, and $18 for Zinfandels, Mataros and Burgundies.

It was decided that if any higher price were paid the manufacturers would lose money, and, while the wine market is in good shape, the conditions are not nearly so rosy as many producers seem to think it is.

There is no scarcity in the supply of wine on hand. Indeed, the reverse is true. Large quantities of old wine is held by the large dealers in San Francisco, and owing to depressed conditions in the East trade is light.

At the prices named there is good money in producing grapes. The crop will be better than many expected and the terms on which grapes are purchased this season will soon put a goodly sum of money in circulation in this valley. It is better to get fair prices every year, and keep the industry on a solid basis, than to raise the price high enough this season to start the brick wineries of New York again, and ruin the business for years to come.

Growers should sell to the corporation wineries, and assist in sustaining the combination that raised prices. Great care should also be taken in delivering only sound, marketable berries. Quality will, in the future, have an important place in determining prices.

(Sebastopol *Times*, 12th inst.)

The season for wine making is rapidly approaching and the price to be paid for grapes is still very uncertain. Several of the large wineries in this vicinity are in readiness for operations and all that now remains is for the growers and manufacturers to enter into contracts. Grapes are ripening fast and will be ready for the crusher about the 20th or 25th of the present month. As the time is very short growers are about ready to contract. As a matter of course they want the highest market price, but just what that will be is a question not yet decided. Some vineyardists expect from $20 to $22 per ton, while others are inclined to believe that the ruling price will be from $18 to $20 per ton. A *Times* reporter interviewed several prominent grape growers this week and was informed that a few offers at $20 have been made up to the present time. During the past few years grapes were sold for such small prices that the growers realized little or nothing for their crops after paying for cultivating, packing, etc., but the wine industry is gradually rising to its former state and we predict a bright future for both the growers and manufacturers.

(Healdsburg *Tribune*.)

The wine makers corporation has set the prices on grapes for the coming season. For Zinfandels, Mataros and Carignannes $18 per ton will be paid and for Mission and white and various red varieties $15 per ton. Cabernet Sauvignons will bring a higher figure, owing to their scarcity. The terms are one-third cash, one-third in three months and one-third in six months.

Pith of the Week's News.

PRESIDENT CLEVELAND, it is said, is preparing a letter in support of Palmer and Buchner.

THE San Francisco assessment has been raised 20 per cent by the State Board of Equalization.

THE talk of breaking up the Turkish empire by the united Christian powers of Europe is revived.

CABINET OFFICERS Lamont and Francis have publicly announced their allegiance to Palmer and Buchner.

ON the whole the grape prospects of Santa Clara county appears to have been improved by the recent rain.

HENRY B. PAYNE, the Standard oil magnate and formerly a Senator from Ohio, died at his home in Cleveland on the 9th.

THE pacer, John R. Gentry, went a mile in 2:01½ at Glenn's Falls last week, making him the fastest harness horse in the world.

BOSTON was visited by a "West India hurricane" on the 9th and a good deal of damage was done in the city and in the harbor.

SENATOR HILL of New York is very hard to "place" this year. Nobody knows as yet whether he will support Bryan, Palmer or McKinley.

MRS. PHŒBE A. HEARST has given a farm near San Rafael, Marin county, for an orphans' home to be administered by the Presbyterian church.

THE Pennsylvania Democratic State Committee has deposed the gold-standardists from the electoral ticket and substituted free-silver men.

THE Populist national committee is in desperate straits for money to carry on its work and has issued an urgent call. Dollar subscriptions will be gladly received.

THOS. E. WATSON has at last been officially notified of his nomination for the Vice-Presidency. His letter of acceptance is expected to appear during the coming week.

EDWARD F. INGLES, the engineer who saved his train from robbery by killing bandit Morgan, has been presented with a gold watch and a check for $250 by the S. P. Co.

EX-PRESIDENT HARRISON has declined the presidency of the new University of Indianapolis. The story that he would like to succeed Mr. Voorhies in the U. S. Senate is revived.

SENATOR ALLEN, chairman of the Populist convention at St. Louis, has written Mr. Bryan a letter formally notifying him of his nomination, but Mr. Bryan has not yet replied.

LI HUNG CHANG is a self made man. His father was a wood-chopper in one of the central Chinese provinces and his mother was a maid-servant up to the time of her marriage.

THE bicycle relay race between San Francisco and New York covered the distance in thirteen days and one hour. The riders rode easy stages and were in the saddle night and day.

THE forty-fifth annual conference of the Methodist church in California has been in session at Pacific Grove during the week. Bishop Cyrus D. Foss is the president assisted by Rev. A. H. Needham.

THE famous Columbian liberty bell, made with such care under the auspices of the Daughters of the American Revolution, and which was to have been carried around the world, is under detention for debt at Chicago.

THE UNION IRON WORKS, of San Francisco, has been awarded a contract by the Government to build one of three new battleships recently authorized by Congress. The new ship will outrank the Oregon and the cost will be in the neighborhood of $4,000,000.

BY the collapse of a bridge on the Arcata and Mad River Railroad, near Eureka, last Sunday, an accommodation train was precipitated into the bed of the creek below. Four persons were killed outright and several others suffered injuries from which they will die.

THE Bryan campaign committee is now in funds, a syndicate in the mining States having pledged a million dollars, subject to draft as it is required. Nothing definite is known of the McKinley campaign purse but it is presumably kept well filled by the manufacturing interests.

IT is said that Jesse R. Grant, of San Diego, the son of General Grant, who recently announced himself a Populist, aspires to represent California in the United States Senate. Of course the thing is impossible, and if Mr. Grant had the smallest knowledge of matters political, he would know it without being told.

IN the Arkansas State election on Monday the Democratic candidates were elected but by majorities somewhat reduced when compared with those of the last previous election. This is explained by the statement that the Democratic gubernatorial candidate was personally unpopular and that many Democrats for this reason declined to vote.

ENGLISH detectives discovered on Monday of this week a plot to blow up with dynamite Balmoral Castle, the Scottish home of Queen Victoria, when the Prince of Wales and other members of the royal family were entertaining the Czar, who is soon expected to visit England. Tynan, a well-known Irish agitator, and others have been arrested in connection with these discoveries. Certain well-known Russian Nihilists are also connected with the plot.

THE State election in Maine on Monday of this week resulted in a sweeping victory for the Republican candidates. The Republican plurality of 49,000 is far and away the greatest in the history of the State. The Republicans claim for this victory a special significance in connection with the pending national campaign and there is in it, no doubt, a reflection of the sentiment of the people of Maine. In reply the Bryan advocates assert complete indifference to the results in the East, their hopes being centered in the Pacific and Mississippi States.

THE effort to navigate the air continues to be prosecuted by enthusiasts in various parts of the country. On September 11th, at Chicago, there was a public test of a flying machine designed by Octave Chanute, and in spite of a strong wind and a heavy rain the inventor succeeded in raising himself into the air and traveling for a short distance at a very considerable rate of speed. In the face of the wind he made a flight of 256 feet in ten seconds. It is not claimed that this device is perfect or practicable as a means of navigation at this time, but it shows that progress is steadily being made.

From an Independent Standpoint.

Circumstances of a personal and sorrowful kind have restrained the Standpoint pen for many weeks past; and after long absorption in interests far removed from the busy world the writer returns to his duties with a sense of being measurably out of key with the spirit of this agitated time. Since his last greeting through this column there has been a complete transformation in the subjects of public attention; and the change is not altogether congenial to one whose aim it is to deal with principles—with the rights and the wrongs of things—rather than with "issues" and the passions which attend them. It is no part of the business of the Standpoint to "talk politics" in the ordinary sense, and it shall not be tempted to depart from its customary way of dealing with affairs because certain matters about which it has held and continues to hold very positive and earnest notions have become the subjects of political discussion and action. Of finance, of the tariff, of the status of the Federal Courts, of the obligations of our Government at home and abroad—of all these matters the Standpoint has freely spoken its mind in times past, when the equities involved formed the sole motive of discussion, and before the making of votes, in one party interest or another, became a desideratum. We see no reason for going over the ground again; and, under the circumstances of the present time, it could not be done without the appearance of motives which have no existence in the spirit or in the plan of this brief weekly talk from an independent standpoint.

In any broad view of the current political agitation the most obvious and striking fact is its effect upon general business. Every Presidential campaign makes a dull time because it diverts a vast amount of energy from production and trade to political interests; but the slump of the present time is too serious to be thus simply accounted for. The earliest symptom of depression was a close shutdown of banking credits; and as there seemed to be no reason for it, it was believed by many to be a movement directed from financial headquarters in New York as a campaign expedient. This, the writer is frank to say, was his own view of the matter first off; but the magnitude of the disturbance explodes this theory and proves that the trouble rests upon a basis broader than mere campaign practice. As business stagnation deepens almost into paralysis, it becomes plain that there is on the part of many of our people a feeling that this is a vital struggle—that its issue involves the integrity and stability of our Government and includes the personal interests of property and of individual happiness. In this view there is, as it appears to us, a very positive exaggeration. In our judgment, the traditions and the establishments of this people and of this country are too deep-set to be shaken by the results of any single election, no matter how radical or how mistaken. Whatever the outcome of the voting may be in November, we look to see the sun rise as usual on the day after and to see no falling off in those things upon which the real welfare and happiness of a people depend. It is very easy to see how a panic in the commercial world might be brought on—a panic which would sweep away much that it has taken time and labor and hope to build up. It would, indeed, in the present situation be easy to make an economic mistake—a mistake that might make the rich poor and the poor poorer—but sooner or later the sound sense of the country would find a way out of it. Let nobody be deceived by the notion that the chance of an election is going to change permanently or generally the conditions of life in this country.

The consequences of bad financial or tariff laws are in the nature of things temporary, for whatever evils one election may produce another may correct. But not so with the consequences of class and sectional feeling among our people. Since the foundation of our Government the harmony of American political life has been disturbed by hatreds growing out of the institution of slavery; and this example is a terrible warning against the impolicy of setting one body of our people in antagonism against another. But in the current campaign this warning appears to be wholly neglected. We do not recall any time in the history of the country when appeals to class interest and class prejudice have been so generally and so shamelessly made. The fault is on both sides. If on the one hand an effort is being made to arouse the "toiling masses" against the "plutocrats" and the "gold bugs," so on the other hand there is equal vigor in the use of such reproachful names as "anarchist," "repudiationist," "ignoramus" and "destroyer." Even in the terms in which each party seeks to embody its financial policy—as "sound money" on the one hand and "honest money" on the other—there is a studied and insulting implication against the integrity of the other side. Of course, this is all wrong. Nobody with a clear head doubts the patriotism or the fundamental honesty of either party in this great struggle; and to pretend to do so is as foolish in policy as it is unsound in morals. The mischief of it is that when the questions over which the country is now agitated shall be settled and forgotten, the malignant spirit of class and sectional enmity may survive to disturb the peace of our political life and to menace the general amity upon which democratic systems are dependent.

It is with pleasure that we turn to a better aspect of the pending campaign—namely, its personal side. It is gratifying to feel that in the exaltation of Bryan or McKinley to the Presidential office, the domestic virtues will be substantially honored. Of each candidate it may be said that his personal and family life is in all ways admirable. This is a matter respecting which the sentiment of the American people is very sound. The instances in which men of questionable private morals have been highly honored by public favor are very few, and in the few exceptional cases the truth has not been generally known. There is no other fact in American life more wholesome or hopeful than this.

The result of the voting in Maine last Monday may have the effect of eliminating Mr. Sewall, the Chicago nominee for the vice-presidency, from the pending campaign. Mr. Sewall lives in Maine and he was nominated in the hope that his name and connections would strengthen the Bryan ticket in the Atlantic district. It now appears that this was a mistaken policy, for Maine has given a Republican majority of unprecedented size. Mr. Sewall, it is clear, will do the Bryan ticket no good in the East, and he may do it a vast amount of harm in the West and South, where feeling against him is very strong. His retirement would give the opportunity for the substitution of Watson, the Populist nominee, and thus make entire harmony between the Chicago Democrats and the Populists. This is especially desirable from one point of view since it would secure for Bryan substantially the whole Populist vote. Ten days ago, with reference to the Populist complication, Mr. Sewall wrote to Mr. Bryan urging him to follow whatever course promised best for himself. I am too earnest, he said, in my hopes for the principles involved to allow any personal interest of mine to stand between you and success. This being Mr. Sewall's attitude, it is rather to be expected that the coming week will witness his withdrawal and the substitution of Mr. Watson.

Gleanings.

MR. SEWALL is distinguished as the owner of the "best vegetable garden in the State of Maine."

ALL but two of the Pajaro hop fields will be picked this year, and operations have already begun.

FRESH fruit shipments from Sacramento to the East keep up well, 46 cars having been dispatched East Friday.

THE seventeenth annual fair of the Ninth District Agricultural Association is being held this week at Ferndale.

THE *Tree and Vine* learns of a sale of apricots by the California Dried Fruit Agency of San Jose at 10½ for choice.

RUSSIAN SEPARATOR butter, made by the Star Lake Creamery, took sweepstakes at the Minnesota State Fair last week.

RIALTO orange shippers received $13,000 for their fruit last year. The product for the coming season will be about the same.

THE W. Y. Walker ranch, near Sebastopol, has been leased for five years to Piezzi Bros., who will conduct a dairy on a large scale.

THE Texas cotton crop is 50 per cent short and the State Agricultural Department advises farmers to "market their cotton slowly."

SOMETHING over 3000 acres of the Alamitos ranch, near Santa Ana, have been leased under contract to be planted to sugar beets next year.

SEVENTY cents per hundred is the average rate paid hop pickers in the Sonoma county yards. At this rate an average worker can make about one dollar per day. Up to date the highest offer to growers is within 6 cents per pound.

THE Sonoma County Fruit Exchange has dried about thirteen tons of prunes—less than was expected. Size and quality are exceptionally good.

THE sale of the Chino ranch appears to be a sure thing at last. It is the plan of the purchasers to settle the tract of 40,000 acres with English colonists.

AFTER looking carefully over the St. Helena district Prof. Hussmann and W. J. Lafarrier of Napa are of the opinion that wine grapes will be only half a crop.

MILLER & HOTCHKISS will operate the Windsor and Trenton wineries this season. Mr. Hotchkiss does not fully credit the reports of shortage in the grape crop.

TREES and vines, says the Sonoma *Farmer*, have made a fine growth generally and under ordinarily favorable circumstances, 1897 should be a big harvest year.

AT an early day a farmer's institute is to be held at Santa Rosa under the auspices of the State University, Santa Rosa Grange and the Sonoma County Horticultural Society.

THE new Salinas sugar factory is to be located on the Hatton ranch, owned by Claus Spreckels, about four miles from Salinas. It will be near the Salinas river, and the waste can be easily handled.

CLAUS SPRECKELS has purchased the Silacci limestone quarry, near Salinas, and next year will furnish the lime rock for the Watsonville and Salinas factories. At present the lime rock comes from Santa Cruz.

A NOVEL feature of the Santa Clara County Fair, which will open in San Jose October 28th, will be an exhibition of the pests and parasites which infest the orchards and vineyards, by Horticultural Commissioner Ehrhorn.

A FILIBUSTERING STEAMER from the United States ran the Cuban blockade last week and landed 10,000 rifles, 460,000 cartridges, one dynamite cannon and 100 shots, 2000 pounds of dynamite, machetes and clothing and medicines.

THE Alamitos sugar factory has decided on a plan to get even with property owners along the route from Anaheim to the factory site, who have refused the right of way to the railroad. The factory will refuse to take any beets grown by the kickers for five years.

AS AN ILLUSTRATION of the minor ways in which a creamery may be made to pay the Livermore *Herald* says: "Superintendent Dunn of the creamery bought a lot of lank and hungry hogs a month ago for $3 a head. A buttermilk diet has in this short time made them portly and important, and Mr. Dunn is asking $7.50 each for them."

RAMONA *Sentinel*: "The bees in this section are now gathering some honey. Since the rain the Nevada sage has started blooming and the bees are after it. This sage is one of the best honey plants we have in southern California, the only drawback to it is, that it blooms so late in the season, but when it commences it blooms until frost falls."

LONDON, ENG., Sept. 12.—Four thousand half-cases of California fruit were offered for sale at the Covent Garden market yesterday, 2000 of which were disposed of, the remainder—all pears—being held over until next week. Of the fruit sold to-day, Bartlett pears brought from 4s 6d to 6s 3d. Lots of peaches, aggregating 400 half-cases, were sold at 9s to 6s 6d.

FOLLOWING is the roster of the Glendora Citrus Association: E. B. Owens, president; W. R. Powell, secretary; William Bowring, J. H. Wamsley and Mr. Mitchell. This association stands at the head of the list in the A. C. G. Exchange having received $1.66 average f. o. b. for all grades and varieties, the total shipments of the season being fifty-three carloads of oranges.

BLACKS (Yolo Co.) letter: "The tramps seem to have almost disappeared. It is a rare thing to see one of them on the road nowadays. One explanation of this circumstance is that they have gone to San Francisco early enough to acquire a residence. Voting is a great privilege which none of them desire to lose, especially when its commercial value is a matter of such serious consideration as it is this year.

SAYS the Santa Ana *Blade*: "Bloody murrain or a disease almost identical with it is playing havoc with several of the herds in the pastures south of Westminister and many dairymen have suffered severely. The disease has invariably attacked the most valuable cows. In consequence of the disease butchers and drivers of meat wagons are meeting with hard times in their business. People are naturally afraid to eat meat killed in or near any of the infected districts."

THE Dixon *Tribune* thus sets forth the difference between the "agriculturist" and the farmer: "A farmer gets up at crack of day, feeds his stock and eats his breakfast at sun up After his frugal meal he hitches up his team to the plow and taking the hard handles in his horny hands he calls 'gee haw' to his team and plows the long and weary day. The agriculturist gets up at 8 o'clock in the morning, after an easy breakfast, picks his teeth, pulls on his gloves, orders his horse and buggy and drives to town."

SAYS the Ventura *Independent*: "The indications are that the winter of 1896-97 will be an unusually wet one. The summer storms in the mountains have been very severe. Rain has fallen and quite heavily over the whole Pacific coast. The great wet winters of 1862, 1867 and 1884 were preceded by heavy summer storms in the mountains, and all the old-timers throughout the State are prophecying a hard and wet winter. Our farmers would do well to take warning and prepare for an early and severe winter."

VISALIA *Delta*: "Notwithstanding the fact that business generally is depressed, there has never been a time when there were so few Visalians out of work. Men and boys find employment in the orchards about town and women and girls at the cannery. There is work for all who want it, and no one need be without employment. The tramp is at present unknown here, for those who want work find men seeking them, and those who do not want to work keep away from a place where there is no excuse for being idle."

GREAT difficulty has been met with this year in handling the heavy tule lands of the Sacramento valley. Refering to this matter the Dixon *Tribune* says: "John T. Carey has still 400 acres of grain standing and in this the weeds are maturing and hardening each day. A little later the work will become impossible. These lands, adjoining the tule basin, are probably the richest in the State, but in addition to the best crop of wheat or barley their exuberant energies are displayed in a growth of weeds that renders profitable farming difficult."

G. W. Burton in the Los Angeles *Cultivator*: "It used to be said that butter and eggs held close together in prices on this coast but that is so no longer. We are producing more eggs on the coast than formerly, and western stock is obtainable at less cost. The price of local stock, fresh and clean from nearby ranches, has risen the past few weeks, and this grade is now 20 cents. Cold storage stock and that from interior valleys and from the East sell at 15 to 18 cents as to quality. High cost checks the demand at all times for any commodity, and more especially at this period of hard times and for eggs, a commodity for which there are so many substitutes."

SAYS the Hanford *Journal*: "McGinnis & Bunn have gathered from three acres of pear trees on the George Camp place, near Armona, 18½ tons of pears, and they have 10 tons still

left to dry. This is 9¼ tons of pears to the acre, and as they received $10 a ton for the green fruit which they sold for cannery use, through Worsick, Stolp & Reeve, they make a handsome profit off of the pears this year. They will begin picking Winter Nellis pears off of another part of the orchard this week, for which they will receive $12.50 a ton, and the crop of this variety of pears is also large. These pears will be shipped East in a green state and will remain there in cold storage till Christmas, when they will be sold."

W. J. McEuen, who is considered one of the best ranchers of the valley, is thoroughly convinced that it pays to tickle the roots of growing grain with a generous supply of water, especially in seasons of insufficient rainfall, says the Winchester *Recorder*. Last season he irrigated his barley and was so well satisfied with the result that he repeated the process this year on a larger scale. In the spring he bought $38 worth of water, which he turned on his barley field from the south canal, and figures that this irrigation gave him 500 more sacks of grain than he would otherwise have had. Threshing at McEuen's ranch was finished Monday, and the crop amounted to 1000 sacks. A large part of the crop was cut for hay.

Mr. Alexander Craw, quarantine officer of the California State Board of Horticulture, has made the discovery that there has recently arrived at Seattle two ships from Yokohama, having as parts of their cargo certain Japanese plants badly infested with the "Diaspas Lanapus" scale, which is very destructive to all kinds of fruits. Mr. Craw has written a letter to the secretary of the Washington State Board of Horticulture calling attention to these dangerous importations and pointing out the necessity of maintaining a strict quarantine upon ships arriving from Oriental countries. This is especially necessary, owing to the recent establishment of a regular steamship line between Asiatic countries and Puget Sound.

Orange dealers are already on the lookout for the coming crop and are offering prices far in advance of last year's quotations. The Sanger *Herald* reports that "the crop of two of the largest orange groves on Kings river has been contracted for by the Earl Fruit Company at $1.10 net per box, including all varieties. Last year the growers sold their fruit at 75 cents per box and the entire output was about twenty carloads. This year's crop at Orangedale is estimated at twelve to fifteen carloads. Some of the growers have been offered $1.80 for Navel oranges, but have accepted a lower figure from dealers who agreed to take the whole crop at a uniform figure. The frosts last spring killed about all the fruit on the young trees, Mediterranean Sweets suffering more injury than other varieties."

Several of the lakes in Lassen county, notably Eagle and Honey lakes, have gradually increased in depth and size until much country on their banks has been overflowed. The road which formerly passed around the shore of Eagle lake is now covered with water to a depth of over twelve feet, and the new road which was built in its stead will soon also be covered, should the present increase continue. At Honey lake the same condition exists, and several farms have been submerged. In Grasshopper valley the large ranch on which Ex-Surveyor-General Shanklin and the Hornlein Bros. spent many thousands of dollars in erecting reservoirs for storage for irrigation purposes has, by this same freak of nature, become almost a swamp, some 10,000 acres of it being under water.

Never before in the history of Oregon has the wool situation been anything like what it is at the present time. Heretofore there has always been a market for wool at some price. There has always been money in the past, plenty of it, to advance to any and all who wanted to consign their wool. People have held back for better prices in days gone by, but when the time came that they had to sell there were always buyers ready to pay the market price. Now there is no market, no buyers—none who will make advances. The wool business is at a dead standstill. Mountains of wool, one of the mainstays of Eastern Oregon, is tied up, and, for the present needs, is as worthless as the sands of the Columbia; 20,000,000 pounds of wool in Eastern Oregon towns alone, and no one to even advance enough money on it to pay freight from one town to another.

At Ukiah, last Saturday, one of the largest sheep ranches in Mendocino was sold at sheriff's sale, under foreclosure. The Wheelbarrow ranch, situated near Willits, 20 miles north of there, owned by Archie Whitehorn and the estate of Philip Upp, and comprising over 2000 acres of the finest range land in that section, was sold for $3000. Whitehorn & Upp, the owners of the ranch, became financially embarrassed when the price of wool fell, and they have now been forced to lose their sheep range and 200 acres of farming land in the Little Lake valley, which was also sold by the sheriff under the same foreclosure. The ranch of William K. Lee, near Yorkville, was sold under foreclosure at the same time for $8000, the amount due on a mortgage. The ranch comprises 1700 acres. It was bid in by Elizabeth A. Hibberd, the mortgagee. In more prosperous times both these ranches were large money earners.

The Gridley *Herald* says that the acreage of wheat and barley sown in the counties of California on the line of the Southern Pacific Company, as based on agents' estimates and figures of assessors, is given as 3,687,253 acres on the 1st of January, 1896, an increase of 5,777 acres over the same date in 1895. This acreage represents thirty-six of the fifty-four counties, and comprises the real grain section of the State. In one-half of the counties the acreage shows an increase. Stanislaus county reports 425,000 acres in wheat and barley, an increase of 25,170. The next in importance along this line is Merced, with 389,480 acres, a decrease of 94,140 acres. Last year the largest acreage of the State in the cereals was in Merced county, say 383,620 acres. The heavy decrease in that county this year is neutralized by the gain in other counties. Butte county shows an increase of 32,245 acres, San Joaquin 37,130 acres and Yuba 24,064 acres. But for bad weather when the grain was in the milk, there would have been 2,000,000 tons of these cereals last year.

Review of the Orange Prospects.

A Riverside correspondent thus sums up the situation: "Now that the oranges on the trees are getting well developed, it is becoming possible to make something like an estimate of the prospective harvest the coming winter. George Frost, whose long familiarity with the orange industry and intimate association with the growers make him an authority, estimates the crop at 60 per cent of a normal crop. It is probable that a normal crop would be about 3500 carloads, which would indicate a prospect for about 2000 carloads of oranges the coming winter, or practically the amount shipped last winter. This is fully as good a percentage of yield as is expected from southern California as a whole. Localities where the trees average younger than in Riverside will have a somewhat heavier percentage of shrinkage from a normal crop, as the oranges dropped more freely from young trees. One or two large bodies of young orchards, which were depended upon to yield a crop of several hundred cars, have suffered seriously from a shortage of water, and this will cause a heavy shrinkage of the crop below the average shrinkage in southern California, giving reason for the belief that the entire output of the State will hardly exceed 6000 cars. It is estimated that a normal crop this year would have been 12,000 cars—a quantity that the country could probably readily consume, even in dull times. The indications are consequently that the dropping of oranges has entailed a loss of close to or quite $2,000,000."

Weather and Crops.

The following synopsis of the weather and crop conditions during the week ending Monday, September 14th, is issued by the State Agricultural Society in co-operation with the U. S. Climate and Crop Service, James A. Barwick, section director:

The weather conditions of the week have been most excellent for fruit gathering; but owing to the heavy dews and partly cloudy weather in the interior valleys and foggy mornings in the Santa Clara valley and along the coast counties, fruit and raisin drying has been a slow process. The weather has been too cool for rapid fruit ripening of late varieties. Almond picking and hulling is nearly completed and the crop will only be a fair one of good quality. Walnut picking has begun, and that crop will be a good one, especially in Orange county. The Lima bean output will not be as good a one as that of last year, notwithstanding there has been a greater acreage planted this season than last. Hop picking around Wheatland was closed a little earlier than it otherwise would have been on account of the rains of the previous week turning the hops red, but those which were picked before the rains are of fine quality. There will be none picked which have turned red from the rain. The prune crop in Yolo county on young trees will be almost a total failure, while old trees will yield about one-third of a crop. Sugar beets are being harvested successfully, although the damp, cool weather has reduced the saccharine matter in their composition. Highest and lowest temperatures, 106° at Picacho, San Diego county, situated on the Colorado river, and 38° at Yreka, Siskiyou county, in the extreme northern portion of the State.

Sacramento Valley.

Butte County (Biggs).—The cannery will continue to run during the next two weeks and probably longer.

Sutter County (Yuba City).—Harvesting is about completed, only a few machines being now in operation.

Yuba County (Wheatland).—Hop picking will be completed next week; the yield, though of fine quality, will be less than was expected, many having to be abandoned on account of the recent rain turning them red.

Sacramento County (Sacramento).—Fruit is still being shipped in large quantities to the East. The weather has been too cool, damp and partly cloudy to make drying much of a success. Table grapes are being shipped East in large quantities.

Yolo County (Woodland).—Prunes in this county on young trees are almost a failure, but on old trees there will be less than one-third of a crop. Almond picking or gathering is about drawing to a close; grape picking has not yet commenced, and from present indications the output will be about one-third of a crop—Sultanas and Muscatels even less than that. (Winters).—The almond crop in this neighborhood is not a very heavy one, and will soon be gathered.

Solano County (Dixon).—Almond crop is short, but is larger than was expected early in the spring. Prune crop will be short.

Napa, Sonoma and Santa Clara Valleys.

Napa County.—The grape crop is ripening nicely, and some growers in this valley will begin picking this week. The highest and lowest temperatures for the week has been 90° and 47°. The winemaking season is near at hand and soon hundreds of men will be at work in the vineyards.

Sonoma County (Santa Rosa).—Trees and vines have made a fine growth generally, and, under ordinary and favorable circumstances, 1897 will be a big harvest year. (Asti).—The week has been favorable to crops of grapes and fruit. There has been heavy fogs; grapes are ripening fast and picking has begun. (Forestville).—Foggy weather is causing the grapes to rot badly. Hops are being cared for.

Alameda County (Niles).—The mornings have been foggy until noon, which causes fruit to dry very slowly. This section has picked the last French and Silver prunes. Almond harvest is in full blast and in fine shape and the crop will be a large one.

Santa Clara County (Los Gatos).—Prune drying is in full blast, but the weather has been very poor for fruit drying on account of the cool nights and mornings, with more or less fogs. The prune crop is a large one, but the prunes are small in size. Grapes are doing well. Canneries are cleaning up and are about through for the season.

San Benito County (Hollister).—There will be a very light crop of winter pears, especially of the Winter Nellis variety. Winter apples will also not be so plentiful as usual. Grapes were badly injured by the rain.

San Joaquin Valley.

San Joaquin County (Acampo).—Fruit drying is about over with for this season. Grapes are being picked and shipped in large quantities. (Lodi)—Weather favorable to the fruit and almond harvest. Some Tokay grapes are being shipped, but they are late in coloring. Wine grapes are ripening slowly and the crop is short fully one-half, caused by the late spring frost.

Fresno County.—Grape picking has commenced, with the weather favorable, but the crop will be a short one. There were heavy winds on the evening of the 5th, but there was no damage done in this district. Highest and lowest temperatures, 100° and 64°. (Fresno)—This has been a week of good raisin curing weather, which is now going on. Highest and lowest temperatures, 101° and 53°, with a trace of rain. (Oleander)—A number of vineyardists commenced raisin picking on the first of the present week, but the grapes are ripening slowly and picking will not become general much before next week. (Selma)—Grapes are ripening rapidly and there is great demand for pickers.

Tulare County (Traver).—The larvæ of the little yellow butterfly is playing havoc in the alfalfa fields in different parts of this county. There has been an unusual number of the flies in this section this season, but no damage has been reported. Since the vineyardists have begun picking their raisin grapes it is found that the average yield will be about one-half a crop. Prunes in this district are not ripening rapidly, although gathering has commenced. The first picking will not be large. Grape picking has begun. (Lime Kiln)—Citrus trees promise a good yield in spite of the dropping of large quantities in the fore part of the season.

Southern California.

Santa Barbara County (Huasna).—Considering the large acreage put in this season the crop did not turn out as large as anticipated, there being about 16,000 sacks altogether. (Santa Barbara)—It is probable that notwithstanding the increased acreage planted to beans the yield will be less than that of last year. (Carpenteria)—Weather is fine. Beans about all cut and many of them are threshed. Walnuts are being gathered.

Ventura County (Saticoy).—Bean threshing has begun and the yield is a light one. Walnut gathering has begun and the yield is about half of an ordinary crop. (Ventura)—The Santa Clara river rose 2 feet during the last seven days, owing to heavy rains in the mountains. Many prophesy heavy rains this winter. Bean tramping has begun, as the farmers are afraid to wait the arrival of the machines, for they might not get around soon enough. English walnuts are maturing nicely.

HORTICULTURE.

A Paradise of Prunes.

That is what a writer for *Harper's Weekly* says about Santa Clara county, and his later remarks are in keeping with the headline. A ride through one of the vast prune orchards when the trees are in full bloom is an experience never to be forgotten. Some of these orchards, consisting of 500 acres, contain 50,000 trees, their ages varying from five to ten years, and planted in regular rows about twenty feet apart.

Nor pebble, nor clod, nor blade of grass can be found among the friable soil of the miles of long aisles which intervene, tessellated by the flickering shadows of the swaying snowy petals which project on either side from flower-laden branches. Bird and bee and butterfly are each alive to the situation and puncture the perfumed air of a cloudless May morning with song, buzz and voiceless wing.

Among this embarrassment of beauty walks the alert, intelligent orchardist, watching with the trained eye of an artist the development of the tiny bud of the embryo prune upon the tree, until picked at the prime of its perfection with the deft hand of an expert. In order to produce the desired uniformity of size and shape, each fruit-bearing bough is subjected to such thinning and pruning that there lie scattered around the base of a tree often more rejected prunes than are left hanging upon its branches.

As the Eastern plum pest, the curculio, is unknown in California, as scarcely a drop of rain falls upon the trees from May until November, and there is no scorching sun to shrivel the delicate skin of the prune nor rough wind to mar its contour, a bough of full-ripened clusters represents one of perfect prunes.

In an area from six to twelve miles square planted to fruit trees, 18,000 acres are in prunes alone. They cover the billowy surface of the majestic foothills as well as the plains with a beautiful irregularity impossible to describe. At plucking time thousands of busy hands are at work, chiefly those of boys and girls, preparing the luscious fruit for curing under the rays of the midsummer sun.

New Southern Apples.

Very early in the horticultural history of California collections of southern apples were brought here with the idea that they were better suited to our climate than the varieties from the north. All that was anticipated from this bright thought was not realized and yet we got some good kinds by that route. Our apple growers should keep track of southern apple progress and procure their newer kinds for trial. The *Southern Cultivator*, writing of the south Atlantic States, says they are now well supplied with fine varieties of winter apples, and all the summer and fall varieties do well, but their winter apples must be such as have come from seedlings of the south. It is a disregard of this fact that has caused the failure. They have many native seedlings that compare well with the best northern varieties in color, size and flavor.

The Yates (seeded in Fayette or Henry county, Georgia) is a small or medium-sized, deep red apple, with a small white speck over it, which keeps until spring; flesh yellow and sweet when mellow. Capt. Moses, a large or medium-sized apple, of yellow, overspread with red, flesh juicy, crisp, sweet and slightly vinous and pleasant. Yellow English, a medium, yellow, a most excellent winter apple, an early bearer and a rapid grower. Oconee Greening is a medium-sized, green apple, rich, aromatic flavor; the tree is a vigorous grower and a profuse bearer, valuable for all purposes. This is a native of Clark county, Georgia, and one of the best of

apples. Limber Twig is a medium-sized, greenish yellow apple, subacid flavor, but fine keeper and a profuse bearer and good shipper. Howard is a small, yellow apple of fine flavor, and good keeper. Ferries Winter is a small, yellow apple of fine flavor and a good keeper, originated near Atlanta, Ga. Kinnaird's Choice is a large, deep red apple, unsurpassed in flavor; flesh yellow and sweet.

The above are such varieties of winter apples as are tested and found to suit the southern States.

Home Supplies of Fruit.

We gave in last week's RURAL an exhortation to mixed farming and home supply of family needs. The extension of fruit planting in California in regions outside of the orchard districts should proceed on this basis, and there should be many trees required this year for this purpose. An Eastern sermon in this line so closely fits California conditions that we take from it.

Not a Difficult Matter.—It is not necessary to have an elaborate or costly collection of fruit plants in order to do this, nor needful to spend on them much time. Yet the farmers of this section do not have them, and cannot afford to buy the fruit even if they had a chance. Strange, that so delightful and appetizing a dish as ripe strawberries, which can be grown, bushel for bushel, as cheaply as potatoes, should not be found upon a farmer's table! There are few persons who do not like ripe fruit, and well-ripened fresh fruit as rarely injures the consumer. Few farmers are too lazy, as is sometimes charged, or lack space to plant, but they are too busy, and—greatest of all objections—they do not know how.

It Would Pay to Grow It.—Would it not pay to take a little time from other crops? Some of my customers have paid more for berries to "do up" than they received from an acre of potatoes, and yet have hardly had a taste at their daily meals. An eighth of an acre devoted to small fruit would have taken less time than an acre of potatoes, have been a constant source of pleasure, and the surplus sold to the neighbors would have paid the whole cost. The most of us work more land and grow more of the staple crops now than can be well cared for, and if help is hired at a loss then pay out money to some one for things we should grow ourselves.

Buying Food Supplies.—The coming farmer must stop buying anything that can be produced on his own farm, and his own products, as far as possible, be made to take the place of those he has been buying. Farm products will sell for but little more than the cost of the labor, and that must be figured at a low wage; therefore, one cannot afford to pay to another profit on anything that can be produced at home. The buying habit, cultivated by the good times of the past, is the factor which keeps two-thirds of my acquaintances poor. The pile of tin cans behind some farm houses suggests a canning factory. Lobsters, salmon, tomatoes, sweet corn, beans, fruits of all kinds, are kept at all country stores. Farmers who have not tasted spring chicken, lamb or veal this season, have risked their lives eating "canned horse," and traded their fresh eggs for canned tomatoes, corn and beans. Where is the money to pay for them coming from? They mostly buy on credit, and will be amazed at the size of the bill when they come to settle. One friend replied to the question: "Oh! sell a load of oats." His oats yielded 30 bushels per acre, and are worth 20 cents. After deducting anything at all for the use of the land, his labor and cash paid out for seed, threshing and fertilizer, how many cans of tomatoes can he buy with the profits? How many bushels of everything could he raise on that acre, with no more work or cost than he expended on his oats? Yet he has no plat devoted to "truck" because "it don't pay!"

Some will say this picture is overdrawn, but the fact remains that the majority of farmers grow no small fruit, and have no garden worthy of the name—in many instances none at all, and in many others only what the wife either plants herself or scolds *him* into doing. Why people will pay out hard-earned money for the stale, dirty surplus products put into "cans" and neglect to provide themselves with the same class of foods in much better condition at less cost, by growing them, is a mystery to me.

Delaware Peach Men Disappointed.

This seems to be an off year in fruit everywhere. Georgia was disappointed seriously, and now comes Delaware. J. Edgar Layton, writing to the *Fruit Trade Journal* from Bridgeport, Del., says the peach crop this season has been very unprofitable to the growers, and in many ways unsatisfactory. Most of the early varieties of fruit rotted, and that shipped in many instances did not pay cost of transportation. Such was also the case with the varieties following the early ones. Elbertas, Late Crawfords and other large, fancy fruit are now being shipped. These varieties are commanding good prices, but the money received from these sales will, in many instances, be used to defray losses on previous shipments.

The crop on the entire peninsula is much below expectation and much less than the railroad estimate, secured by I. N. Mills. Mr. Mills secured the estimate in June, and at that time there was, as he estimated, 6,600,000 baskets of peaches on the trees, but they did not remain there long enough to be harvested. Incessant rains and other conditions caused the fruit to rot, and those in a position to know say that not more than 3,500,000 baskets of fruit will be shipped.

Old Mixons are gone and Elbertas will not be shipped after this week. Consequently, Late Crawford, Fox Seedling and Smock trees will have to yield 3,000,000 baskets of fruit if the crop reaches the estimate of 6,600,000. Such a thing is, of course, impossible, as these late varieties will be harvested in a short time.

The peach growers feel the loss of the fruit, and this loss is increased by the fact that nearly every one purchased enough baskets early in the season for the fruit, and they will be compelled to keep the baskets until there is another crop.

The season is about two weeks in advance of any previous one. Late Crawfords are seldom shipped before the last of August, then they will be over, as well as one or two other varieties. Smock, the peach greatly used for canning purposes, will be ripe before the first of September, and this variety has never been known to ripen so early.

ARBORICULTURE.

American Nut Growing.

NUMBER XI.

California Walnut (Juglans Californica: Watson).—The correct botanical position of this, the native walnut of central California, is yet open to discussion. It has been included under *Juglans rupestris* of Englemann, a species whose type is found in Texas and Arizona, as a low, many-branched shrub; but because of the larger growth, both of tree and nut, as well as its comparatively distinct area of distribution, we have followed the specific name given by Watson, as noted above. Its chief value to the pomologist would seem to lie in its availability as a stock for the Persian walnut, and, possibly, as a supplier of pollen for varieties of that nut which fail to set fruit when planted by themselves. Though sometimes marketed in California, its nuts have too small a proportion of meat and are inclosed within too hard and thick a shell to have any considerable market value.

Wickson says of it in "California Fruits": "This nut is first in importance among the native nuts of California. The tree is described as attaining a height of from 60 to 75 feet, with a diameter of trunk of 2 to 4 feet. It is more graceful than the grosser Persian walnut; not so heavy as the great black walnut of the West, nor so open, light and airy as the white butternut of the Eastern States. The nut is roundish, somewhat variable in size, much smoother than the Eastern black walnut, and the kernel is sweeter and of a more delicate flavor. The tree prefers deep, moist soils, and is usually found along the creeks. Its range is from the central zone of the State southward to Santa Barbara, and from there eastward through southern Arizona into New Mexico and Sonora. The tree is a popular shade and avenue tree, and the root succeeds admirably as a stock for the Persian walnut."

Theodore B. Hall, Yuba City, Cal., writes: "The California black walnut, which is a native to some parts of the State, bears a nut a little smaller than the Eastern black walnut, and without the peculiar flavor of the Eastern nut. Tree a rapid grower in this locality; planted largely for shade, especially along roadsides. Nut good; sold in all the markets cheap."

John S. Calkins, Pomona, Cal., says: "Both nut and tree are inferior to the Eastern species." From the southern portions of California this tree is reported abundant on the hillsides, in the foothills, and along the water courses. In places it is called the "river nut," from its abundance along streams. The nuts vary greatly in size and form; the larger varieties are reported as being marketed at 2 cents per pound.

(*Juglans Rupestris: Englemann*).—This tree is most abundant in Texas and Arizona, extending into California and covering a portion of the territory occupied by *Juglans Californica*. It is found on borders of streams and in mountain canyons, on rich soil. The tree is shrubby and dwarfish, and the nuts small, hard-shelled and of little apparent value. C. F. Thornton, Chrystoval, Ariz., writes: "In the mountains of central and eastern Arizona, at altitudes of 2000 to 4000 feet, it appears in stunted growth, with small, worthless nuts. The timber is likewise worthless." J. B. Stephens, Bluffdale, Tex., says: "The black walnut [evidently *J. rupestris*] of this country is very different from that of the Alleghanies. The nut is so small that the kernel is almost worthless. It is very abundant." W. J. Maltby, Baird, Tex., says: "They are small and dwarfish, but profuse bearers. Not fit for market."

The Hickories.—Of the eight or nine species of the genus *Hicoria*, but four are worthy of the special attention of the nut grower as trees likely to produce marketable fruit in profitable quantities. First among these is the pecan.

Pecan (Hicoria pecan: Britton; Carya olivaeformis: Nuttall).—The pecan is found native in the United States on the river bottoms of an obliquely set area, having near its four extremities the cities of Davenport, Iowa; Chattanooga, Tenn.; Laredo, Tex., and the region of the headwaters of the Colorado river of Texas. From Davenport to Chattanooga the northeastern boundary of this area is quite irregular, the growth extending much farther north in the valleys of the larger tributaries of the Mississippi and Ohio rivers than in the intervening higher land.

It is reported to do well on rich soil, both wet and dry, whether high or low, stiff clay or porous sand, although best in rich, alluvial, creek and river bottoms. When not crowded by other trees, the pecan attains great size. Single trees are reported 4 feet in diameter and 70 feet in spread of limbs.

Variations in the Size and Quality of the Tree and in Size and Quality of Fruit.—The largest trees are reported upon the northeastern area of its native growth. But the largest and thinnest shelled nuts have been received from Mississippi, Louisiana and Texas. R. C. Koerber, a large dealer in pecans in New York city, who has personal knowledge of the tree and its habit in Texas, says: "The largest and best pecans come from Louisiana. They reach the market earlier than do those from Texas and are of large size, measuring from 1¾ to 2 inches in length by three-fourths of an inch in diameter, in the middle. The quantity marketed from this State, however, is very limited. "In Bee county and adjacent territory in Texas pecans are grown with very thin shells that may be crushed in the fingers; in Victoria county the more common pecan is large and round; in San Saba and Llano counties the pecan nut is large and the meat is plump; shell moderately thin."

Extent of Cultivation.—The pecan has been planted very generally in collections of nut trees as far north as New York, west to the Missouri river, and also in California.

The Pomological Importance of the Pecan is scarcely less than that of the Persian walnut or almond at the present time. With an area of special adaptation in the United States considerably larger than is found for either of the others, and with a susceptibility to improvement by selection, in size of nut, thinness of shell and delicacy of flavor, that are very encouraging to those who have attempted this work, the pecan is probably destined to become the leading nut of the American market. If its culture is pushed with the usual skill and energy of American enterprise, there is reason to believe that it will not be many years before the pecan will become not only an abundant nut in our markets, but also an important article of export.

Propagation.—Until very recently the propagation of pecan trees has been entirely confined to the growing of seedlings from selected nuts. Where this method is pursued, it is best to select nuts of good size, having thin shells and plump kernels, from trees known to be vigorous and productive. Some growers have claimed that the improved varieties come true from the seed and have deprecated other modes of propagation as likely to lessen the vigor of the tree. The evidence thus far presented, however, indicates that the improved pecans are as variable in their seedlings as other fruit trees and can not be depended on to reproduce themselves from seed.

Cuttings.—Pecan cuttings callus when stored in damp sawdust, and it is probable that in a damp climate, such as that of Mississippi and Louisiana, the tree may be propagated in this way. When the lateral roots of the pecan are broken by the plow, the ends of these roots frequently send up thrifty shoots; so the suggestion has been made that it could be propagated by cutting the slender roots of trees known to bear choice nuts, and raising the cut ends nearly to the surface, fixing them there until leaves and branches are developed from adventitious buds.

Layering.—Reports from Texas state that in 1886 some large, bearing pecan trees were blown down; a number of their lateral roots remained unbroken and in place under ground. The trees so fell that large limbs were bent and twisted by contact with the ground. The fractured pieces were driven a foot or more into the wet soil. The limbs projecting above the fracture, and also other limbs of the trees, have since borne nuts. In these cases digging down under the fractures has disclosed new roots. This would indicate that propagation could be effected by layering. For the increase of some specially choice variety this method may be worth the trial.

Allied Stocks.—At the threshold of propagation we are met with the question: "Is there no stock other

than ordinary pecan that will insure a healthy growth of bud or graft of this nut, and that will give more lateral and fibrous roots and insure more dwarfish growth of the top? The pecan will form a healthy union with any of the hickories, and possibly some strain of the lower-growing sorts may be found that will give good results. One of the possibilities in this line is the re-discovery of a dwarf pecan which is believed to be in existence somewhere in the South. In 1853 John LeConte presented before the Academy of Natural Sciences of Philadelphia a unique pecan which he named *Hicoria Texana*, and of which he said the habit was to grow 10 or 12 feet high. By letters to numerous correspondents and by inquiries through newspapers in the South, we have endeavored to secure specimens of it, but have not yet succeeded in locating a tree of the species.

Budding and Grafting.—Reports from many correspondents who have been experimenting in the propagation of the pecan indicate that annular, or ring budding, root grafting, and cleft grafting at the collar have been the most successful. Shield budding, the cleft grafting of branches, diagonal side or wedge grafting, such as is practiced on the orange in Florida, while occasionally successful, are not to be relied on in common practice.

Annular, or Ring, Budding.—Jules Fonta, New Orleans, La., says: "In June and July, when young seedlings are very sappy, we take off a ring of bark about three-fourths of an inch long from the nursery stock to be budded and then replace it with a ring cut from a branch of equal size on the tree to be propagated, and tie to keep out rain. This is the best way to propagate pecans in this climate."

Grafting at the Collar.—J. D. Husted, Vineyard, Ga., writes: "In clearing new land I save hickory trees that are 2 or 3 inches in diameter, cleft graft at or near the surface as soon as buds begin to swell and before the bark starts. I cover the entire graft with earth, so that it will not dry out at the union." John G. Kline, Buckner, Ky.: "I have been successful in grafting on hickory near the surface and hilling up to exclude air from the graft."

Root Grafting.—E. E. Risien, San Saba, Tex.: "We can, by the aid of a damp cellar, with the thermometer near 50°, succeed in grafting seedling trees of the first year's growth by tongue grafting. Both root and scion must be exactly the same size to make these little trees. We need but 6 or 8 inches of the root; neither use any wax in tying. I bury these in layers of clean river sand, where they can get strong light (no sun); after we are quite sure the union is complete and new roots are forming, plant separately in pots and remove them in a week or so to a shady place. Water freely. This furnishes nice little grafted trees for shipping by mail; but, as the percentage of those that live is so small, the price will, I fear, always be high."

Orchard vs. Nursery.—Whether to plant nuts where trees are to grow or to transplant from the nursery is a disputed question among pecan growers. S. M. James, of Mound, La., favors the former method and gives the following directions: "Put the rows 60 feet apart and plant the nuts 4 or 5 inches deep, driving pieces of shingle around the nuts to protect them and to mark the spot. The planting may be done at any time before the 1st of April, but the earlier the better. All the land, the row planted in pecans included, should be planted in cotton and well worked. In the fall following germination put down a post by the side of each plant, and about 4 inches from it, and square in the cotton row; this will be a protection to the trees in after years. The post will turn the mule and plow and prevent the pecan from being injured. Plow the row well that the pecans are planted on, and see that no weeds shade them and that the cotton does not come nearer than 3 feet to them. A tree at 2 years old will be ten times larger where it has been carefully plowed than where it has been left to itself. All trees that I manured showed the effects within a few months, and these effects are visible to-day. The first winter after they are planted the rabbits will bite them off as smooth as if a knife had cut them; but this biting by the rabbits does no serious harm, for in the spring they send up a vigorous shoot from just below the cut, and by that fall they are too large for the rabbits to bother. The trees should stand about 60x60 feet, or 12 trees to the acre. They will give a moderate crop in fifteen years, and in twenty years they will be in full bearing."

Charles Mohr says: "Place several nuts after their harvesting in each hill, well supplied with rotted manure. The next season the strongest seedlings are left standing. The hills should be at least 50 feet apart each way." The late W. R. Stuart, of Ocean Springs, Miss.: "When at all practicable, plant the nut where you wish the tree to stand. If grown in nursery, cut the taproot at 1 year old, so as to get all the fibrous roots possible. The main thing is to make no mistakes in the beginning, and to see that trees are produced only from large, choice seed."

Nursery Method.—George Tyng, of Victoria, Tex., says: "The fullest successes I have seen have been attained by treating the pecan absolutely as a fruit tree from seed to harvest. No more costly mistakes have I made than in trying to follow nature in raising the pecan. Every agricultural success has been achieved by overcoming nature's efforts to defeat it."

Most operators favor planting nuts as fresh as possible. When these are budded in boxes of sand, sunken in the earth, and ashes are mixed with the sand as directed in the introductory chapter of this treatise, the result will be very generally satisfactory. Pecans that have become dry have been made to germinate quite well if they are soaked in cold water for one or two days before planting and afterwards are kept in a moderately moist bed. In early spring the sprouted nuts are taken from the seed bed and carefully planted in well-prepared nursery rows. The rows should be about 4 feet apart, to allow convenient working with horse and cultivator, with the seedlings set at 8 inches apart in the row. They will thus shade each other from the hot sun. Open the furrows for the nuts only so fast as to leave the earth fresh and moist for planting, and be sure to make the earth very firm around each nut after it is properly set. Finish with a garden rake, carefully placing a layer of loose earth over that which has been packed about the nuts; this will prevent the crusting of the soil that will otherwise occur. In about ten days, by a careful working with narrow hoes, the surface of the earth should be loosened to the depth of half an inch on either side of the nursery row. For the rest of the season cultivate well, keeping the ground level and clean. With the pecan, as with most other nuts, some propagators follow the practice of transplanting the trees at the end of the season for the first two or three years. Their theory is that trees come into bearing sooner if they are removed once or twice before the final planting. They can show beyond question an increase of surface roots, and they claim also to modify the rampant growth of the top. At each removal care is exercised to save 10 or 12 inches of the main taproot and all the laterals. Where the roots are severed the cuts should be smooth and without ragged edges.

Mr. Tyng says: "Much stress has been laid upon the taproot in transplanting young pecan trees, and to avoid the injury to that precious root, experts have recommended planting the seeds in places where the trees are to permanently stand. I swallowed that rank nonsense, with a lot more of pecan lore like it. All nut seedlings make the first year a taproot three to five or six times as long as their sprout. I have seen thousands of nut trees grubbed out of canal and railroad excavations or uprooted by streams, and but few trees over a few years old had any taproot whatever. Yet occasionally I have found large pecan trees with heavy taproot growth, and some of these go down into permanent water. A smooth cutting of this root does not injure young trees, but does induce the multiplying of other roots. In this part of Texas a costly experience has taught me some of the objections to planting seed nuts in places where trees ought to stand. During the winter mice and other vermin dig up the nuts. In the spring, as soon as the nuts begin to open, they attract the ants, who eat out the kernels, or so much of them as not to leave enough for the healthy growth of the sprout. When the sprouts appear above ground crows pull them up as greedily as they do corn. Then rabbits gnaw all the sprouts from which the crows have been driven; and if the little trees had escaped all these dangers, it costs far more to cultivate them in orchards than it does in nurseries for the first three years. In the early spring of 1889 I planted about 6000 healthy sprouting nuts. I doubt if there are now living 600 trees from them, or if they average as well in size and thrift as any 600 of over 6000 of my transplanted trees one year younger."

It is desirable to protect the tender bark of the seedling from the scalding effects of the sun during the first summer, and this is effected by planting quite close in the rows and making the rows run northeast and southwest. In transplanting pecan trees, the roots should be carefully protected from injurious action of light, which is sometimes done by a wrapping of moss, but is more cheaply and efficiently done by plunging the roots into a tub of thin mud.

FLORIST AND GARDENER.

What California is Doing for Sweet Peas.

We have already told what is doing in producing sweet pea seed for all the world. Now it is conceded that we have the call on the world in producing new varieties; that our growers are improving the very best so that they are beyond the results of the originators. Such is the concession made to California by Rev. W. T. Hutchins, who is the acknowledged sweet pea expert of this country. He has recently written his conclusions for the *American Florist* and we shall draw therefrom.

The Eckfords in California.—Eckford's best novelties are holding their type well, with the exception of Countess of Radnor, which has been allowed to deteriorate badly in color. The trade stock of this now is flushed with rosy mauve, spoiling its original soft lavender color. The Eckford sets which came to us in 1892-3-5 produced the Eckford bloom in this country. Her Majesty and Mrs. Eckford, two of the 1892 set, are to-day two of the best four of all the varieties. All the '93 sets are fine and make magnificent bunches at all our shows. They are Blushing Beauty, Duke of Clarence, Emily Eckford, Firefly, Gaiety and Venus. Of the '94 set Lady Penzance is the most popular sweet pea in the California cut flower trade, and it is grand anywhere. Stanley is the best dark maroon. Lady Beaconsfield will be displaced by Coquette. Ovid is inferior to a strain that comes out of Mikado stock. Royal Robe has with me run very close to Blushing Beauty, but we had some of the former in our show that was deeper in color than I had ever seen it. Of the '95 set Blanche Burpee is gaining ground. It is a grand white. Duke of York is worthless. Duchess of York is so utterly beaten by Ramona that it will hardly hold a place. Eliza Eckford is very pretty and bouquets with fine effect. Mrs. Joseph Chamberlain is of such giant size that some rank it among the "best four." Meteor is richer than the Orange Prince and of better substance, but the size is not up yet. The same may be said of Novelty. The 1896 set is disappointing as a whole. The California growers bestow considerable praise on Crown Jewel and Countess of Aberdeen; but the latter runs in two directions, and neither of them come quite up to the type set. Both these varieties make large flowers of finest form, but as I saw Aberdeen in Mr. Eckford's exhibit in England it was a very soft pink with a pretty decided edge of deeper pink, having almost the effect of a pink-edged white. Little Dorrit has caused the greatest disappointment. In California, Blanche Ferry is ahead of it. I have been taken to task for praising it, but I brought home from England a description as I saw it. I am waiting to see my planting of it bloom. Alice Eckford makes a delicate effect in bouquets, but it quickly fades and has little size and substance to recommend it. Captivation is good in form and size, but the color does not captivate. Mikado does not come true, most of it coming a large-sized Ovid.

California Must Supplement Eckford.—I feel one great shadow of disheartenment about Mr. Eckford's sealed packets. He develovs his novelties at Wem to a high degree of perfection, gets a row of each trued up to just the type he wants, then sends the seed stock off to be grown by another man, and it is set back by poor growing so that we get deteriorated stock. About all I ever get from an Eckford sealed package the first year is a suggestion of what they are. It takes one or two years of good growing on our Pacific coast to put Mr. Eckford's Essex-grown seed back to its Wem size and quality. I have Mr. Eckford's 1897 set coming into bloom. I retain a glowing picture of them as I saw them at Wem, but Mr. Eckford wouldn't own them as they show up in my garden the first year. In two years we will put back into them what has been lost, and then they will be all right. It is partly a matter of acclimatizing, but unless Mr. Eckford can grow his own trade stock, the only right thing to do is to trust his fine Wem stock as soon as possible with a reliable Pacific grower. It would not lose anything in quality and Mr. Eckford would be twice as rich in pocket. This is an impudent gratuity, but it is an utterly disinterested opinion.

California Varieties.—And just here another very important matter comes to the front. It is plain, now that such varieties as Ramona, Grey Friar and Juanita have been put out by California growers, that we are to look to that source for some of our finest novelties. Among the new California sorts for next year is an orange-salmon stripe that has the immense size of Mrs. Chamberlain and is a sweet pea of this most perfect ideal. It illustrates what we are to expect from California hereafter. But it shows something else. These grand California sorts are really all Eckfords. They are products of the Eckford stock plus the grand California conditions. It is a pleasure to get a novelty that at once shows up at its best and gives you free bloom to pick from. Where we ordinarily can get but a few imperfect stems the first year to show from the Eckford sealed packets, we get from the California novelties unstinted abundance. But Mr. Eckford's twenty years work has really given us the grandiflora type wherever it now appears, and California is reaping what he has so patiently sown. And now the very interesting news comes from California of recent success in crossing Eckford's finest sorts, the result being that our growers will in this way come into possession of the finest things Mr. Eckford has among his reserve stock. There is no law against this crossing of the latest Eckford novelties, and the interesting thing about it is that the product is such a "breaking up" of the varieties crossed that in time this California workshop will show as many fine things as Mr. Eckford himself has. This is a perfectly legitimate way of stealing all the results of Mr. Eckford's long labor, and California has this advantage: that she can stock the market with a finer class of seed than can possibly be grown in England, supplying us promptly with all the new ones with seed that doesn't need acclimating, but at once yields a fine showing for our exhibitions. I have not

felt elated over recent California developments, for I want Mr. Eckford to enjoy the little monopoly he has so deservedly earned. Even now I hope he can maintain his lead, so as to command a fair price for his stock and hold an honored place in our American market. But, at the same time, I should cheer on our California friends who are bending their energies to supply the novelty market with the finest introductions. When I look at Ramona, and at that new orange-salmon striped beauty, I feel like saying: "Go it, California!" I know three growers who have the latter, and so no one of them will have a right to name it. Some one asked me to name a sweet pea Clara Barton. I suggest that name for this grand new sort.

Red Riding Hood.—I can pick a good bunch of the Sunset Co.'s novelty, Red Riding Hood. That the sweet pea is a coquettish flower is apparent in many ways, but for a freak of roguishness this little red bonnet takes the cake. It resembles a snap dragon more than a sweet pea. But it is really a cute little hood and well named, and, if novelty is the spice of the seed trade, we have it in this new candidate. Its peculiarity is an abortive standard that is drawn like a little nightcap over the wings, so that they stick out like the sides of a hood. The whole habit of the vine is identical with ordinary sweet peas in other respects.

Radnor Restored.—One excellent output from Morse's through Burpee will be a stock of Countess of Radnor brought back to its original delicate lavender shade. It is a pleasure to see this bloom and thus recall how beautiful Radnor was at first. But it can only be held up to type by an expense of rogueing that will make the stock high priced. I say again, more of the fine sorts can be held up to their grandiflora type so as to make good exhibition stock at the prices which competition now figures at. I can't for the life of me make out where some of the poor trash I see comes from.

THE FIELD.

Notes on Flax Growing.

Californians who have recently entered into the growing of flax, as many have done during the past year, will be interested in some conclusions drawn from accurate experiment at the Minnesota station, which is situated in an important flax region. It is shown that flax does not remove an excessive amount of fertility from the soil. An average yield of fifteen bushels of flax per acre will remove less fertility from the soil than one hundred and fifty bushels of potatoes, forty-five bushels of corn or thirty bushels of wheat.

Flax is a weak-feeding crop, possessing but little power of obtaining its food from the soil. It absorbs the larger portions of its nitrogen, phosphoric acid and potash during the first forty or fifty days of its growth. In order to supply the food in so short a time the soil must be in a high state of fertility. Raw stable manure, applied directly, is unsuited to flax because the plants are incapable of feeding upon such crude forms of food. In order to be beneficial the manure must be applied to the preceeding crop, as corn, so as to become thoroughly rotted and mixed with the soil.

Home grown flax seeds were found to be equally as rich in stored up plant food as imported seeds. There were found to be only a slight difference in chemical composition between home grown and imported seeds.

The best flax soils of Minnesota were found to be composed of sand, silt and clay in the following proportion: one-fourth medium sand, one-fourth fine and very free sand, one third silt, usually spoken of as clay, and about one-eighth of the finest clay. Any soil capable of producing a good corn crop can be made to produce a good flax crop. Extremely sandy or heavy clay soils are both unsuited to flax.

When flax is cut on the green side, after bloom and before seed development, and cured as hay, it makes a valuable fodder, rich in protein, and containing about the same amount of fiber as timothy hay. Flax straw is richer in protein than either wheat, oat, or barley straw.

Oilmeal.—A yield of fifteen bushels of flax will produce about 315 pounds of total oil, yielding from 270 to 280 pounds of crude linseed oil by the pressure process. Linseed meal, the product obtained in making linseed oil, is a valuable food, rich in protein, which was found to be easily and quite thoroughly digested. The manure from linseed meal-fed pigs was found to be very concentrated and rich in nitrogen. If six hundred pounds of linseed meal were fed for every fifteen bushels of flax sold and a good rotation of crops followed, flax raising would then be a means of keeping up the fertility of the soil. When only the oil is sold there is but little fertility lost from the farm.

Manuring Flax.—In the raising of flax, the fact that flax will not thrive on the same soil where it has been grown for at least five years previously, should be kept in mind because, as shown by Dr. Lugger, the flax straw and roots in their decomposition produce products which will destroy a following flax crop. When five or seven years intervene between two flax crops, then the old straw and crop residue is thoroughly decomposed and will not injure a new flax crop. For successful flax raising on soils worn by grain cropping, a liberal use must be made of farm manure so as to bring the land up to a high grade of fertility. The manure should be applied to corn crops, and not direct to the flax, then a good yield of flax can be obtained and no injury to the soil will follow.

THE IRRIGATOR.

Irrigation and Fertility.

This is a subject of the utmost importance in California. The analyses of irrigation waters by Prof. Hilgard show that they frequently carry high fertilizing value, and discussions in this line are interesting. J. W. Sanborn, now of New Hampshire, but formerly director of the Utah Experiment Station, writes to the *Country Gentleman* enforcing the influence of irrigation on the fertility of the soil.

Soils Absorb Fertilizing Matter.—The famous experiments of Prof. Way, that brought out strongly the power of soils to remove solids from solutions, are somewhat familiar to the reading public. Probably all teachers of agriculture illustrate this power by running foul water through a cylinder of soil in the class room in the presence of students. The curious can prepare a filthy liquid from urine of the stables and run it through 2 feet of soil placed in some cylinder and secure a clear liquid. Drains that remove the surplus water of sewage farms carry off pure-looking water that appears suitable for drinking.

Experiments in Utah.—The writer, while associated with the Utah college, prepared several plats of land, 2 by 4 rods, by tiling them at frequent distances into cement vaults. The water used for irrigating these plats was measured for each plat, and varied from none by rises of 6 inches to 4½ feet per plat. These amounts represented the water estimated to saturate the plats to the depths named. Analyses of the water applied and of that caught in the vaults enabled a determination whether the water applied lost fertility in passing through the natural soil, or whether it gained. The result was the same in tenor in the water of percolation, whether from plats receiving little or much irrigation. For 1894, for one of the plats water was used at the rate of 14,001,636 pounds to the acre; its calculated contents of solids was 3617.55 pounds. Of this quantity but 21 pounds were found in the waters collected in the vault, as estimated by Mr. A. A. Mills, the farm superintendent, a competent authority. Science and practice tally in showing that soils have a special power of retaining the fertility that may be carried to them in water.

Granite Soils.—Occupiers of granite soils like those of the extreme East will rightly question whether the waters of Eastern rivers and brooks will bear as much plant nutrition as those of the limestone soils of the Mississippi valley and the inter-mountain region. They do not, but on the other hand bear solids having quite a different composition. Those of the West are marked by their heavy content of lime, while those of granite soils have less of lime and more of potash, if the latter are to be gauged by the analyses of the water supplying the Wilson farm. The water used for irrigation by the writer is estimated to furnish in covering the soil 20 inches deep for one acre, in the several irrigations for the season, of nitrogen, 2.78 pounds; phosphoric acid, 5.47 pounds; potash, 25.15 pounds; lime, 14.92 pounds; magnesia, 8.11 pounds. Computation of the first three materials, at the rates agreed upon by the Experiment Stations, gives a total value of $1.75. The cost of these materials, however, as purchased in mixed fertilizers, would not be less than $2.50. To this cost is to be added the cost of application. Now, as these materials are in solution already, it will be seen that they are worth more than the ordinary fertilizer.

As an Investment.—In irrigating 100 acres here it is fair to assume that $250 worth of plant food is supplied. At 4 per cent this is interest on a $6250 plant, or, viewed from another standpoint, several times pays the cost of application to grass, and will more than pay the cost of application to hoed crops, leaving the drouth-resisting character of irrigation costless, as the interest on the plant and the cost of application are fully met by the fertility added.

In passing, attention is invited to the low amount of lime found in the water, a striking fact in view of the marked tendency of lime to leach from soils. The high content of potash confirms the view held of granite soils in their relation to potash supply.

When art has done its best toward the production of maximum crops outside of artificial supply of moisture they must fall short, often heavily, of their possible economic yield. The application of measured quantities of water to plats in Utah showed that the water supply, up to a certain amount, was a measure of the crop yield. The fact has been brought out in pot culture of plants. Crops steadily increased with the water supply until an enormous acre yield was secured. Until irrigation is commanded ideal crops in farm practice will remain a dream. In view of the cheapness of the process and of the fertility supplied, is a rational explanation of the paucity of irrigation at the East apparent?

THE POULTRY YARD.

Poultry People Who Fail.

It is common to lecture people who begin with poultry without sense, experience or adaptation, but "Poultry Farmer," in the *Poultry Monthly*, does it so entertainingly that the old points seem new.

You Cannot Buy It All.—Whenever I see an over-enthusiastic fellow, "with a bank account," starting a poultry farm I cannot help thinking of the old adage, "A fool and his money soon part." No one could have more faith in the profitableness of poultry farming than I have, and no one certainly could be better acquainted with the amount of labor and "vexation of spirit" in the business when a man is short of cash. All I have in this world (and that is very little, I assure you) I earned by the *sweat* of my brow. Don't think that this poultry work is a *cool* occupation.

Now, my reason for doubting the success of the over-enthusiastic, pocket-full-of-money fellow is because he will want to make too big a jump. He won't begin small because he has more money to buy hens, and that is just where he makes a big mistake. "You can lead a horse to water, but you cannot make him drink;" you can buy plenty of hens, but it is not such an easy trick to make them lay. Buying old hens is like buying old cows; and buying pullets hatched too early or too late is equally as bad. We want to raise all the stock we keep, and we want to hatch that stock at such a season that they may become profitable at a season of the year when there is most money in them.

A Greenhorn.—One hot day during the month of July, while we were busy cleaning up the droppings that had accumulated in the hen-house the night before, we were startled to see a tall, finely dressed man standing in the doorway. He said he had come to see us upon important business. We almost trembled; he was tall, rich looking, with a polished high hat and a "biled shirt." What important business could he have with us? He looked so much like a sheriff that it made us fear; but then we remembered that if we had nothing else in the world we knew we also had no debt. But the important business he called upon was to know all about the poultry business, as he was going to embark in it. "My friend," we said, "to tell you all about the business would fill a book." "Is that so?" he asked, in apparent amazement; "why, it looks like such easy work that I thought a short interview with you would help me out." Then he admitted that he never kept a hen; he wasn't sure how long it took to hatch an egg, but he was under the impression that an incubator could do the work in half the time a hen could. He wanted to know if breeds paired, and if it was necessary to keep breeds in separate apartments, or if it was not possible to mate them up like pigeons and then give them one common run. Well, so he went on in logic of that style. Have you any money? we asked. "Yes; several hundred dollars." He said that with such a confidential air that we could at once see he thought that was plenty of money to start with. But he wanted to run on a larger scale than we were running; "and, by the way," he continued, "how much money have you here invested?" "Not very much," we replied, "but presume it is somewhere near $3000, and we have not half enough," we added, by way of a clincher. The man gasped; it took his breath.

Too Little Capital.—Now, as we told that man, so we will tell all new aspirants, you cannot run a poultry farm on a poverty plan; you cannot conduct this business without experience, any more than you would any other business; you need as much brains to manage a poultry plant as you would a general stock farm; you cannot make poultry culture a high-hat, kid-gloved affair; you must get down to solid work, you must begin small, have working capital to keep you while you are establishing your business, and you must work out your own salvation.

Think for a moment: What would the poultry business in this country amount to if every Tom, Dick and Harry who embarked would be successful? If it was such an easy occupation, one that required no experience and very little capital, how soon would it be before the ranks would be overcrowded, and poultry meat and eggs would not bring the price of production. The man who will go into the business

with a boom is apt to meet a cyclone before the second snow flies. It is early and late work. It is not necessarily hard, muscular labor; it is steady, watchful work. It is a constantly at it that means a more trying occupation than the new aspirant supposed.

The Lazy Man.—No one in this world loves more to help the new aspirant than we do, but we do not wish to have it said that we have ever held out false colors. The business is not a bed of roses, but it is agreeable work, at agreeable pay, for an agreeable person; none others need apply. But we despise a lazy person. Not far from our farm once lived a young man, equipped with an excellent brooding house, incubators, hen houses, etc., and he had a reasonably fair knowledge of the business. If ever a person had a fair chance for success, it was he. But he was lazy. Under two trees in front of his brooding-house he swung a hammock, and in that hammock he could be found almost any time of the day. Many a time the feeding hour was missed because the owner was in the land of dreams at just that time. One warm summer evening he fell asleep under those trees and did not wake up until about nine o'clock that night. His brooder-house was rat proof, and the rats seldom came about during daylight; but at night was when they strove hard to get into that house for a feast. If at sundown the little doors that led into their runs were closed there was no danger of the rats getting in; but on this night the amazed rats found the doors open for their reception and they politely helped themselves to several hundred chicks before our lazy friend woke up. We are always sorry for any one's loss, but we must confess we were on the verge of saying "serves him right," when we learned the facts.

The Careless Man.—Another class of men who fail are the shiftless, "didn't-think" fellows. They never think for a moment that one sick fowl in a flock may endanger the lives of the whole flock; they forgot that the lamps in the incubators needed filling; it didn't occur to them that in their rush in the morning they forget to give the fowls water, and in consequence the poor birds went thirsty all day. Oh, they are so shiftless that it makes you tired to look at them. When such men fail it does the cause good.

The Smart Man.—Another class are the "smart Alecs." They know it all. One year's training has given them more knowledge than it took the authorities ten or twenty years to learn. They have no use for poultry books or papers, for such publications are only written by theorists, and published to make money. They look upon all advice that is not their experience as nothing more than "poultry rot." We had an experience with one of that class a short while ago. He came to us for advice, and when we went to the trouble of carefully answering the many inquiries, he turned around, laughed, snapped his finger and said: "Do you see anything green in my eye? I intend starting a farm in this very town, and then, if you want to know how to make hens lay, come around." We said nothing, but we thought a great deal. In six months after that fellow started he couldn't raise enough money from his hens to pay for their feed, and the store would not give him any credit. The very next time we met him, we kindly admitted that he could make hens lay far better than we could, only he chose to make them "lay in the ground," while ours gave us a bountiful supply of eggs.

Feeding and Breeding.

The director of one of the Canadian experimental farms, in his report on the poultry under his care, says: The fact is emphasized that hens require the same sort of food as dairy cows, that is, food rich in nitrogen. If carbohydrates are fed in excess the hens become fat and will not lay well. The following are recommended as useful poultry foods: Cows' milk, barley middlings, buckwheat bran, barley bran, rye bran, coarse wheat bran, cottonseed, millet, wheat, turnips, cabbage, white clover, red clover, and alsike. Cut green bones are also considered valuable. If they are not easily obtainable cooked meat (liver, lungs, etc.) may be substituted. Green foods of some sort are also necessary, and cut clover hay is recommended.

Feeding Experiments.—During the winter, from January 1st, a large number of hens were fed in the morning a ration consisting of a warm mash of ground wheat, barley, oats, rye and bran. Boiled potatoes, steamed and cut clover hay, and green bones were occasionally fed. When cut green bones were fed for the morning ration, the mash was omitted. Some vegetable foods, either carrots, turnips or cabbages were also fed from time to time and plenty of grit was supplied. Grain was scattered in the pens so that the hens had to scratch for it. There were seventy-five or eighty layers and they produced during January 777 eggs, February 791 and March 1644. As in previous years, the best layers were found to be Black Minorcas, Andalusians, Plymouth Rocks, Langshans, Brahmas and Wyandottes. The White Leghorn-Brahma and the Langshan-Black Minorca crosses made excellent layers.

Breeding Experiments.—Early in March the different breeds were mated for breeding. The eggs of the White Plymouth Rocks were remarkably fertile from the first, though they were from pullets which had laid well all winter. The development of the chickens was much the same as in previous years, the White and Barred Plymouth Rocks taking the lead with a development of one pound per month without any forcing beyond regular feeding and care, but no more than every chicken should receive. Some cross-breeding experiments were also made and promising poultry was obtained. The experiments will be continued.

THE APIARY.

How to Learn About Bees.

A leading Eastern bee-keeper in the *American Bee Journal* advises beginners to invest in an observing hive and study the bees as well as bee books. Books are good, but what you read is easily forgotten, and nothing will impress facts upon your mind as readily as witnessing them. Not only does the bee-keeper gain much from his observing hive, but he also interests his neighbors and all who visit him, for very few sciences are as old and as little known as bee culture.

What You Can See.—The rearing of a queen from a worker, her development, the different stages of the metamorphosis of bees, from the egg to the perfect-winged insect, the difference in drone and worker combs, the shape of the cells, the harvesting of pollen, the production of wax, the difference in appearance between old and young bees, their behavior towards robbers—a thousand little things which are absolutely needed to be known if one desires to succeed—all this can be made clear by the use of an observing hive.

How to Make the Hive.—Such a hive is inexpensive. One bottom board six inches wide and of the length of the hives in your apiary; two upright pieces for the ends two inches wide and of the same height as the brood chamber of your hives, with a rabbet in each for the shoulder of the frame; one glass on each side fastened by a light frame, two tight blinds made of light wood, and a narrow board for the top, and your hive is complete. Make a small auger hole for the entrance. Then take a frame of brood and bees, young brood mixed with hatching brood, so you may have hatching bees and young larvæ to rear a queen. Take this from your best colony, Italians if possible, as they are so much quieter than other races. A hive like this may be kept even in an apartment by a window all summer. The bees become used to seeing you and never sting if the proper precautions are taken to handle them with the greatest care at first. The blinds should be so arranged that they may be put on and removed without jar. Some people, instead of blinds, use only a black cloth thrown over the hive.

It is indispensable that there be but one frame in such a hive, for every part of the hive must be so placed as to be subject to our inspection, otherwise we may lose the sight of the most interesting of their performances when we most desire it. One has no idea of the pleasure that such a hive will give, when you can exhibit the bees rearing a queen, or the queen in the act of laying, or the respectful behavior of the little workers towards their mother. There is no end to the discoveries that are made, many of which you will think are original with you, and of which you will be very proud, as a new addition to the world's knowledge, until you find out that some one had already discovered it 200 years ago. But, nevertheless, it is quite a good thing for you, for probably you would never have heard of it had you not seen it yourself.

For Queen Rearing.—Outside of its advantage as a means of education, the observing hive may be made to pay its way—yes, twice over, if properly managed. Its actual cost, if you are as usual somewhat of a carpenter (all bee-keepers are carpenters, jacks of all trades), will be only a few cents, the glass being the most expensive part of it; but even if you have to have your hive made by a mechanic, it will not cost you to exceed one dollar. The frame of brood and bees taken in June from one of your good colonies will hardly be noticed. With this you may, if successful, rear three or four queens during the summer, and these can be used to make artificial swarms or replace missing queens in an apiary, or they may be sold and repay the cost of the hive several times over. At the end of the season, the comb and the bees may be united to a weak colony of bees and help to strengthen it, and the observing hive laid away for another summer.

To those who keep bees in the city, this hive is a source of endless amusement. One cannot conceive the lack of knowledge on the subject of bee culture among the masses till one shows the observing hive to all comers. The most startling question we ever heard was by an old maid: "Do all those little bees go to bed in those little holes every night?"

THE DAIRY.

California Butter Law.

A San Francisco correspondent of the Chicago *Record* tells a story which will be fresh and entertaining to many Californians: We were traveling in Siskiyou county, that northern part of the State which geographically is a part of California, but commercially is a part of Oregon. It is a wild and sparsely settled region, with only here and there a half-cultivated ranch and an occasional mining camp.

It was one of the latter we reached about nightfall. We were directed to the principal hotel in the place, a roughly-boarded, two-story building, of which the most prominent feature of its internal arrangement was the bar room, which was also the office, and contained in one corner a wooden sink provided with a paper bucket filled with water, two or three tin wash basins and a couple of community towels hung on rollers.

Supper was ready when we arrived and we were directed at once to a long room with a low ceiling—the dining room—in which about twenty roughly dressed men, most of them in their shirt sleeves and apparently miners, lumbermen and teamsters, were seated at three or four long tables. The tables were covered with oilcloth. The tableware was very thick and heavy ironstone china, much cracked and chipped. The knives and forks were steel, with handles discolored and cracked from rough usage and hot dishwater. Near each end of the table was a set of casters, originally, doubtless, quite showy with silver plating, but at this period much the worse for the wear of the plating.

The dining room girl who came to wait on us rattled off the bill of fare in exactly the same way that dining room girls do in ten thousand other hotels all over this broad land. As she received our orders she slid the big butter dish from its place near the middle of the table over toward us, saying: "Here's your substitute butter," at the same time taking from one of the casters, where they were kept, like the bills of fare in cheap restaurants, pieces of cardboard about the size and shape of the ordinary restaurant bill of fare. She laid one of these down on the table beside each of us and started for the kitchen. Wondering slightly at this, we each picked up the cardboard laid before us, and this is what we read:

The butter served here is butterine. Percentage of ingredients is as follows:

Creamery butter	25
Neutral	20
Butter oil	10
Oleo oil	35
Cream, milk and salt	10
Total	100

By the time we had finished reading this the girl returned with our supper. When she had arranged the various dishes in front of us we asked her what she had given us this chemical analysis of our butter product for. Without a word, but with a gesture of impatience, she turned the cardboards over, and we read:

This notice is given in conformity with sections 3 and 7 of an act of the Legislature of California, approved March 9, 1895, entitled an "Act to prevent deception in the manufacture and sale of butter and cheese, to secure its enforcement and to appropriate money therefor."

SECTION 3. Each person who, by himself or another, lawfully manufactures any substance designed to be used as a substitute for butter or cheese shall prepare a statement, printed in plain Roman type of a size not smaller than pica, stating in the English language its name and the name and address of the manufacturer, the name of the place where manufactured or put up, and also the names and actual percentages of the various ingredients used in the manufacture of such imitation butter or imitation cheese.

SECTION 7. No keeper or proprietor of any bakery, hotel, boarding house, restaurant, saloon, lunch counter or other place of public entertainment, or any person having charge thereof or employed thereat, or any person furnishing board for other persons than members of his own family, or for any employes where such board is furnished as the compensation or as a part of the compensation of any such employe, shall place before such patron or employe, for use as food, any substance designed to be used as a substitute for butter or cheese, unless the same be accompanied by a copy of the statement described in section of this act and by a verbal notification to said patron that such substance is a substitute for butter or cheese.

The proprietor, having now complied with all the requirements of the law, has only this wish to wish to express:

"May good digestion wait on appetite,
And health on both."

THE Wheatland *Four Corners* gives a report of the test made at the Wheatland creamery for the twenty days' run from August 1st to 20th, from milk furnished by twenty-nine patrons. There were 26,563 pounds of milk, which gave nearly 4 pounds of butter to the 100 pounds of milk, or a net of 881¼ pounds of butter. The sale of this butter, which found a ready market, returned to the twenty-nine patrons nearly $200 for the twenty days. Besides the money realized for the butter, the milk was all returned to the producers. So it is seen that nearly $200 cash was paid out to the twenty-nine cattle owners of Wheatland during twenty days and placed in circulation, which without a creamery they would not have had.

Curious Facts.

It is computed that in marching soldiers take seventy-five steps per minute, in quick marching 108 and in charging 160 steps.

A village improvement society at Woodstock, Vt., encourages the keeping of neatly trimmed lawns by renting lawn mowers to residents. It is a woman's idea.

Degane wood is imported from South America and is used in making light trout and bass rods. It is much like lancewood, but lighter in weight, and is sold generally by the rod and tackle men.

If by any means a bird attained the lightness of a balloon it could not fly. A balloon drifts with every gust; steering is impossible, the wind chooses its course. The bird balloon, as light as the wind and as strong as iron, is a figment of the imagination.

The oldest tree in England is the yew tree at Braburn, in Kent, which is said to be 3000 years old, while at Portignal, in Perthshire, is one nearly as old. At Ankerwyke house, near Staines, is a yew tree, which was famous at the date of the signing of magna charta.

The distinction among animals of requiring least sleep belongs to the elephant. In spite of its capacity for hard work, the elephant seldom, if ever sleepes more than four, or occasionally five, hours. For two hours before midnight, and again for two hours after one o'clock, these misborn mountains sleep.

The teeth of a little Eskimo child will meet in a bite of walrus skin as the teeth of an American child would meet in the flesh of an apple. And that when the hide of the walrus is from one-half to one and one-half inches in thickness, and bears considerable resemblance to to the skin of an elephant. The Eskimo child will bite it and digest it, too, and never know what dyspepsia means.

In a Bulgarian peasant's cottage the floors are of mud. The kitchen fronting the street is also the living room. Behind there is a sleeping room, with a bedstead in it for the head of the house, while the sons and daughters sleep upon mats stretched upon the floor. The furniture consists of wooden tables, benches and chests. The crockery and household utensils of every sort seem of the commonest and coarsest kind. I should doubt if there is a single house in the whole village in which any American laborer or artisan earning good wages would not deem it a hardship to be obliged to live. At the same time, there was no single dwelling which, given the habits and customs of the country, could be fairly described as unfit for human habitation.

DAMAGE by lightning is unmistakably increasing, according to the director of the statistical office of Berlin. Various causes are assigned, such as the employment of electricity in various industries, the continual change of form of the earth's surface by deforestation, drainage, etc., and the impurities introduced into the atmosphere by the growing consumption of coal. Professor Von Bezold some time ago showed that for Bavaria the fires due to lightning increased from a yearly average of 32 in 1833, to 1843 to 132 in 1880 to 1882, while the number of persons struck by lightning and of those killed rose from 134 and 73 respectively in 1855 to 186 and 161 in 1885. An interesting fact noted is that persons struck generally perceive neither lightning nor thunder, but receive the impression of being enveloped by fire.

Deafness Cannot be Cured

by local applications, as they cannot reach the diseased portion of the ear. There is only one way to cure deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian Tube. When this tube is inflamed you have a rumbling sound or imperfect hearing, and when it is entirely closed Deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever. Nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

We will give One Hundred Dollars for any case of Deafness (caused by catarrh) that cannot be cured by Hall's Catarrh Cure. Send for circular; free. F. J. CHEYNEY & CO., Toledo, O.

☞Sold by Druggists, 76c.

Uncle Sam's Warships.

Furniture and supplies for Uncle Sam's new war vessels cost money. To fit out one of these ships for a cruise is a bigger job than equipping a first-class hotel. Here is a floating fortress as long as two city blocks, with all modern conveniences and complete restaurant facilities, lighted throughout by electricity—a gigantic fighting machine and military barracks combined. Her steel walls, bristling with guns, shelter a small army of men. The New York, for example, has a crew numbering 455, besides 40 marines and 44 officers. To feed them all for a twelvemonth at the Government's rate of allowance costs $60,000.

On going into commission such a ship must be furnished throughout, from the kitchen, which is as complete as that of a great city hostelry, to the captain's cabin. She carries large stocks of stationery, hardware and apothecaries' goods, and is provided with tools for all sorts of trades. Everything conceivable that may be needed for purposes of war and peace is supplied, because on the high seas no shops or factories are accessible. Usually the vessel is provisioned for only three months, because there is no room to stow more. The rations are purchased by the Navy Department and comprise such necessities as hard bread, cornmeal, oatmeal, hominy, flour, salt pork, beans, peas, rice, preserved meats, butter, coffee and tea.

Every man in the navy, from the last boy shipped up to the admiral, has an allowance of 30 cents a day for rations, which he may draw either in food or in money. The paymaster of the ship has charge of all the provisions, which are dealt out by his "yeoman," who is in turn assisted by the jack-o'-dust. The person last named attends to opening the barrels and packages. Coffee and sugar are served out once in ten days, flour every four days and meats daily. While in port fresh provisions are furnished, each man receiving 1 pound of fresh bread, 1½ pounds of fresh meat and 1 pound of fresh vegetables per diem. These take the place of the ordinary rations, only tea and coffee being provided in addition. The allowance is at all times so liberal that the enlisted men cannot possibly consume the whole of it, so they take part of it in cash.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING SEPT. 1, 1896.

566,837—BOILER FURNACE—P. H. Bagley, S. F.
566,734—DRY DOCK—Boggs & Cameron, Portland, Oregon.
567,076—ANT TRAP—P. H. Brown, Redlands, Cal.
566,895—PUMP—Geo. E. Dow, S. F.
566,903—FISHING BASKET—L. E. Gieschen, Oakland, Cal.
567,092—AIR COMPRESSOR VALVE—R. F. Grigsby, S. F.
567,096—CHAIR—Harvey & Amos, Los Angeles, Cal.
567,101—GATE—J. H. Johnson, Silverton, Or.
566,777—MACHINE FOR MAKING POWDER—J. E. Layng, S. F.
566,775—REGULATOR—W. O. Ludovici, S. F.
566,929—WINDOW SCREEN—O. G. Niehaus, Berkeley, Cal.
567,041—LABELING MACHINE—H. Rawlinson, S. F.
566,873—BOTTLE—W. H. B. Schmied, Napa, Cal.
567,048—WOOD WEDGE—J. H., J. R. & W. E. Smith, Snohomish, Wash.
566,942—BEER FOUNTAIN—W. H. Smyth, Berkeley, Cal.
566,878—CASH REGISTES—E. T. Taylor, Oakland.
566,820—KEY RETAINER—Tucky & Harris, S. F.

NOTE.—Copies of U. S. and Foreign patents furnished by Dewey & Co. in the shortest time possible by mail or telegraphic order). American and Foreign patents obtained, and general patent business for Pacific Coast inventors transacted with perfect security, at reasonable rates, and in the shortest possible time.

LAST season the Manchester ship canal handled 65,510 bales of Egyptian and 120,713 bales of American cotton. The tonnage of American cotton this year will be larger, and a British paper states that arrangements have been made for frequent sailings of steamers direct from New Orleans and Galveston to Manchester.

Notice to Passengers.

Keep your baggage checks until you reach San Francisco and you will save money by leaving same at any of our offices, our rates being lower than all others, viz., Trunks, 35 cents each. N. B.—We do not have any agents on the trains or steamers. MORTON SPECIAL DELIVERY, 408 Taylor St., 650 Market St., and Oakland Ferry Depot (foot of Market St.). *

One-third of all Harvesting Machinery in use is made by the McCormick Co. of Chicago.

Recent Archaeological Discoveries.

A remarkable discovery was recently made in the Assiot necropolis in Egypt. Among the objects found was a whole company of wooden soldiers 15 inches in height. The soldiers carry lances and give a good idea of their equipment in the Pharaohs' time.

Recent investigations not far from Sebastopol have yielded some interesting finds. Near the French cemetery the discovery was made of what must have been the site of a very large Byzantine city, and objects of classical Greek art of great beauty have been brought to light.

The excavations among the ancient Greek ruins at Eretria have been carried on some years by the American School of Classical Studies at Athens. The gymnasium and other buildings which have been uncovered are probably part of the buildings on each side of the ancient street laid bare last year between the theater and the naval school of King Otho.

In the course of further excavations in the island of Melos, by the director and students of the British School of Athens, one of the most important discoveries has been that of a mosaic which is believed to be the finest yet found in Greece. More recently the excavators have come upon a series of graves of the sixth century B. C., in one of which was found a number of ornaments in gold and silver. In another (Roman) tomb was found a series of gold leaves from a wreath, and a gold ring was a fine subject in cameo.

The trained workmen who have for some years been making excavations in order to explore the remains of the Roman city of Calleva, at Silchester, have very recently opened up several additional buildings, one of them with a very interesting hypocaust showing some unusual features, while others are believed to have been used as dyers' workshops. There was also found an earthenware pot containing 253 silver denarii, ranging in date from B. C. 40 to A. D. 211, though there have been also many objects in gold, bronze, metal, bone and glass, much pottery, and a fine slab of Purbeck marble. The previous discovery of numerous wells, stone hand mills, furnaces, etc., seems, in connection with the buildings disclosed by the latest excavations, to leave no doubt that extensive dye works were once carried on in the buried city.

At a recent meeting in London of the Egypt Exploration Fund, D. G. Hogarth, the well-known explorer, said, that the excavations of last season had convinced him that there was no hope of the preservation of any of the contents of the libraries of Alexandria within the city. Not only has the subsoil water risen generally above the Roman level, but, even where the water does not reach, there is a great deal of damp sucked up by capillary attraction, so that there is no chance, even if any papyri were found in Alexandria, of their being legible at the present day. One of the main reasons for stopping the work at Alexandria was that even below the water level everything was found to be in the utmost state of ruin. After the Arab conquest, any of the books which remained would naturally drift from Alexandria to Cairo. It is not, however, in the rainy delta that they must be sought, he declared, but higher up the Nile, where man has been less active. It is only to Egypt, he said, that we can look with any confidence, to the Fayum and to the dry upper valley of the Nile, for the best classics—perhaps for Sappho and Menander—and for the missing early Christian literature.—Scientific American.

ABOUT 400,000 hectares (nearly 1,000,000 acres) of land in the valley of the Rio Sonora, State of Sonora, will be put under irrigation by the construction of the irrigating works near Hermosillo, the contract for which was recently let. The plant will be completed in three years, though water will be supplied to a portion of the land in twelve months from the time work begins.

A HAPPY MAN.

A USED-UP OLD MINER RENEWS HIS YOUNGER DAYS.

From the Report, San Francisco, Cal.

Among the afflicted who have for years visited San Francisco to brace up their shattered constitutions is the well-known William Shore, of 28 Minna street, familiarly known as Daddy Shore, because of his affectionate disposition and kind-heartedness. Mr. Shore is the head of a family. He has a happy home, a loving wife and children, city and country realty, paying mine investments and a pretty substantial bank account. For years, however, he has lacked one thing which all his wealth could not buy. He lacked health and spent thousands of dollars for doctors and medicines to obtain even temporary relief.

Mr. Shore's greatest and most painful ailment was rheumatism. For ten years he suffered terribly. At times the pains were almost unbearable and he writhed in agony. His limbs would swell and his head would ache, so that rest was impossible.

These spells of sickness were as distressing to his family and his friends as they were weakening to the sufferer. In San Francisco he had the best of medical skill, but all that the doctors could do was to afford temporary relief. All the health resorts and all the famous springs of the State were visited in turn without effecting any permanent good results.

Mr. Shore was about to give up in despair and settle down with resignation into being a life-long sufferer, when a San Francisco friend—at whose home he was stopping—told him of some miraculous cures made by the use of a certain pill, the name of which at the moment he could not remember.

Clutching like a drowning man at a straw, Mr. Shore requested his friend to make further inquiries about the wonderful medicine. Next day he was presented with a box of Dr. Williams' Pink Pills for Pale People.

Scarcely two days had passed before Mr. Shore seemed to get some relief and he felt very much encouraged and continued his treatment with steadiness and faithfulness. Before a week was over all signs of swelling had disappeared and his limbs were of normal shape and size. Relief from pain was gradual until it all went away. The sufferer was amazed. He could scarcely believe his senses, so pronounced became the cure in reasonable time. To say that Mr. Shore is a happy man does not express the situation. He is brimming over with joy. Although an old-timer, he is as young as the youngest, dancing and prancing around, singing the praises of the medicine that wrought such a miracle.

There is no secret about his cure. Mr. Shore is one of the representative men of the Pacific coast, with hosts of friends and acquaintances, all of whom can testify to the truth of the circumstances related above.

Dr. Williams' Pink Pills contain, in a condensed form, all the elements necessary to give new life and richness to the blood and restore shattered nerves. They are an unfailing specific for such diseases as locomotor ataxia, partial paralysis, St. Vitus' dance, sciatica, neuralgia, rheumatism, nervous headache, the after effect of la grippe, palpitation of the heart, pale and sallow complexions, all forms of weakness either in male or female. Pink Pills are sold by all dealers, or will be sent post paid on receipt of price, 50 cents a box, or six boxes for $2.50 (they are never sold in bulk or by the 100), by addressing Dr. Williams' Medicine Company, Schenectady, N. Y.

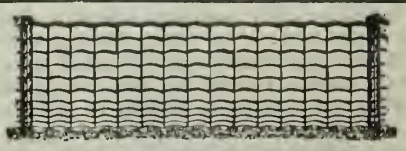
Horse Owners! Try GOMBAULT'S Caustic Balsam

A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from **Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

Every bottle sold is warranted to give satisfaction. Price **$1.50** per bottle. Sold by druggists, or sent by express, **charges paid,** with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland O.



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Our wonderful success with the leading railroads, has led some people to think our farm trade had taken second place. This is a mistake, as our books show that for every 1000 miles sold railroads, 4000 miles have gone to the farmers. Railroad men buy Page fence **because** it suits adjoining farmers.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

ALMOND HULLERS

——For Sale by——

A. O. RIX, Irvington, Alameda County, Cal.

THE HOME CIRCLE.

The Little Red Cradle.

A little red cradle for long years unused,
And hidden away among relics of old,
I unearthed from the dust, all battered and bruised,
The rude-fashioned structure—my infantile fold.
In it is clustered the memories of home,
The smiles of my mother, who bent o'er me there;
Her soft lullabies which she sang in the gloam
While I was in slumber, wrapped safely from care.

The quaint-looking trophy—the symbol of love—
Where oft'times fond faces have gladly appeared,
Was tenderly watched with devotion above
By those whom the little red cradle endeared.
I thoughtfully gaze on the simple affair
Where I when a babe often rocked to and fro,
And finger-worn spots, which are sunken and bare,
Speak of patient endurance in days long ago.

Methinks I can fancy the pleasure and pride,
The pictures of peace that were framed in its space,
When footsteps moved softly in silence beside
The little red cradle with kindness and grace.
It was a safe haven from sorrows and fears,
And tenderly guarded the lives in its care;
It faithfully baffled the tempests of years,
And tempered the bosom with patience and prayer.

All those that were trundled by night and by day
Are scattered—some living and others now dead;
And if the red cradle could speak it would say:
"How well I did shelter the ones that have fled!"
The little red cradle recalls to my mind
The ties it once cherished, now severed in twain,
Yet deep in its narrow confines are enshrined
The visions that never will rock it again.

—George Sands Johnson.

My Cousin Amy.

Howard Taylor and I had been chums for years. Our offices were in the same building and we had fallen into a habit of lunching and dining together whenever my family was out of town for the summer. I had often wondered why he had not married, for he was a fine-looking man, upright, able, and prosperous. One night, when we were having an unusually intimate conversation, I ventured to ask him.

"You must have had a story," I said.

"Yes," he answered slowly, "I have had my story, and if it will not bore you—I warn you it is not cheerful—I will tell it to you."

"I was brought up on a farm," he continued, after a long pause. "My father was not well off, but was anxious that I should have an education, and strained every nerve to send me to the village academy, finally offering me a year at college.

"I was then eighteen years old. I had mastered the lower branches, and was thirsty for more. I eagerly accepted.

"When my year was up, I came home heart-sick to think that I must stop now, at the very threshold of accomplishment.

"My father had a cousin, also a farmer, whose land joined ours. The two had been always like brothers, and his daughter Amy had been the only sister I ever knew. She was a little younger than myself, rather small for her years, but well advanced in her studies and with the promise of beauty in her face.

"When I returned from college, I was astonished to see that in my brief absence she had become a woman, and the promise of beauty was fulfilled. I felt shy toward her and she was no longer my little sister. Still, I went to see her quite as frequently as before, and summer evenings, when we sat out on the long porch, I held her hand while I told her of my dreams and ambitions, and how they must all come to nothing because of the lack of means. It never occurred to me that she, too, had plans and dreams. Like all young fellows, I was selfish, and thought that those around me must be interested only in my welfare.

"Still, I was very glad when one evening she told me that she had obtained the district school for the winter, and her voice that night was so soft, and she seemed so happy, that I kissed her for the first time since my return, and on the way home I felt that I was really very much in love with my sweet cousin.

"Not long after this, my father one day surprised me with the information that he could give me another year at college, and a week or two later I bade them all good-bye—kissing my pretty cousin a little carelessly, perhaps, for I was so full of the delight of going that I forgot how much I was in love.

"Well, I worked hard at college, and had little time to think of those at home. However, I wrote twice to Amy, who answered and said she liked teaching and hoped I was getting along well with my work.

"When I came home the next summer, I thought it was for good, but my father advised me to begin reading law during my vacation, saying that he thought I might be able to finish my education and take a law course afterward, as had always been my desire.

"That summer it seemed to me that my cousin was more shy and more beautiful than ever. I did not have very much time for love-making, but I resolved that some day, when I had got a start in my profession, I would tell her of my love and take her away from the little farmhouse to keep her near me always. She had given great satisfaction as a teacher and was to have the school again.

"My last year at college was the busiest of all, for I was now reading law during every spare moment, in order to be ready for the course the following summer. I graduated at the close of the term, but did not go home, for the law class was to begin at once and money was too scarce for me to make an unnecessary journey.

"Amy wrote me a letter of congratulation, which she enclosed with one from my father, for there was nothing in it that a sister might not have written. I replied to it in a brotherly way—not sorry that we could be as brother and sister—for of course it would be a long time before I could think of a wife, and besides, after all, my cousin was only a little country girl.

"That fall I took my degree, and returned home for a week or two, preparatory to beginning the battle with fortune in the great city.

"I was twenty-one and full of hope. My education and my profession were completed. The world lay before me.

"I saw my cousin Amy nearly every day, but it seemed to me that she was less beautiful than formerly. She appeared paler and thinner, I thought, so I assumed a patronizing air, and told her that she was too fond of money and working too hard, for she was teaching now at the academy and studying French and Latin evenings at home. But she only laughed, and when I went away, she cried a little as she let me kiss her, and then I thought how good and pure she was, and could hardly keep back my own tears. But I was not as much in love as I had been at twenty. She was not as attractive, and, besides, my head was full of the future and the prospect of city life.

"Well, I left them and came to Chicago, a stranger in a strange city. For three years I had a hard fight, and no thought of a wife entered my head. I was very poor, and twice my father sent me money to keep away the wolf.

"By and by, I began to climb the ladder and felt that success was coming at last. Then sometimes I thought of Amy, and wondered if she had fitted herself to be the wife of a man who, as people said, was going to make his mark. I had heard from her only throught my parents, who had written to me regularly, but I knew that she was still teaching and unmarried.

"I determined now to pay a visit to my old home and come to a final decision as to my future. That night I received a telegram from my father. My cousin Amy was dead.

"My father met me at the station, and as we drove home, he told me what he could no longer conceal. It was with the money earned by my cousin that he had paid for my last two years at college. It was her earnings that had paid my law course and that had been sent to keep me from want in the great city.

"Then, as I bowed my head in shame and anguish, he told me how for two years past she had been growing thinner and paler, they thought from overstudy, and how a sudden attack had finished the work of destruction almost before they thought of danger.

"That day, as I stood by the coffin and looked at the quiet face, from which every vestige of beauty had been stripped for my sake, I said, 'For your sake, sweet cousin, I will live and die alone.'"

This was the story that Howard Taylor told me as we sat looking out over the water waiting for the boat to take us home. And sometimes, since, as I have thought of that big-hearted man going through life alone, I have wondered if Amy knows.—Romance.

Gems of Thought.

He that despairs measures Providence by his own little contracted model.—South.

If the way to heaven is narrow, it is not long, and if the gate be straight, it opens into endless life.—Bishop Beveridge.

A man should never be ashamed to own he has been in the wrong, which is but saying, in other words, that he is wiser to-day than he was yesterday.—Pope.

Hope never hurt any one, never yet interfered with duty; nay, always strengthens to the performance of duty, gives courage and clears the judgment.—Macdonald.

If you want to be miserable think about yourself, about what you want, what you like, what respect people ought to pay to you and what people think of you.—Charles Kingsley.

When a healthy body helps to make a healthy soul, the reverse is yet more true. Mind lifts up, purifies, sustains the body. Mental and moral activity keeps the body healthy, strong and young, preserves from decay and renews life.—James Freeman Clarke.

If we look back upon the usual course of our feelings, we shall find that we are more easily influenced by the frequent recurrence of objects than by their weight and importance; and that habit has more force in forming our characters than opinions have. The mind naturally takes its tone and complexion from what it habitually contemplates.—Robert Hall.

Popular Science.

Lyell, the geologist, says: "At a period comparatively recent, all that portion of the United States south of the Black Hills was under from 500 to 900 feet of water."

Without solar fire we could have no atmospheric vapor, without vapor no clouds, without clouds no snow and without snow no glaciers. Curious, then, as the conclusion may be, the cold ice of the Alps has its origin in the heat of the sun.

The greatest depth, writes Prof. Seeley in his "Story of the Earth," at which earthquakes are known to originate is about thirty miles. It has also been calculated that a heat sufficient to melt granite might occur at about the same depth.

Popular judgment is often an aid in scientific studies. A botanist, for instance, can only with difficulty describe in regular terms the difference between an aster and a golden rod. But the botanist will not admit color into the list of his regular terms. The mere plant lover can decide between the two families by color alone. The golden-rod family has yellow flowers, while white or purple is characteristic of the aster.

The Judge's Secret.

Never before in the history of the State had an advocate at the bar made such a strenuous effort to convince a jury of the innocence of the prisoner. Many years ago it was that the noted trial took place, but the scene all comes back to me as vividly as at the time it occurred, now that a startling revelation has recently been made, after the death of the judge who sat upon the bench.

Although not more than a boy, I witnessed the trial of Andrew Hastings with more absorbing interest than anything else in my life has since awakened. I remember the gestures, the impassioned face of Hastings' attorney, Col. George Harvey Palmer, and I can almost repeat the very words he uttered when addressing the jury. It was a wonderful defense he made—wonderful how he fought every inch of ground, while a chain of strong circumstantial evidence was tightening the halter about his client's neck. His cross-questioning of the State's witnesses was so exhaustive, his pleadings to the judge and to the jury so earnest as to arouse the sympathy of many in the packed courtroom. It was, as I remember, the first important case with which Col. Palmer had been connected in Monroe county courts. He had moved to Alabama from Virginia and had been in his new home but a few months before the Hastings murder case became the sensation of the hour.

Last week Judge James C. Garrow died in Monroe county, Alabama, and among his papers was found a statement, in connection with the statement written to be made public after his death. I have read that statement, and it, in connection with the trial of Andrew Hastings, makes such a remarkable chapter of court history that I have written it all down here.

It was in the days of the noted kuklux klan, that organization which sprang into life in the south during the memorable days of "reconstruction." It is supposed that the organizers of the klan originally intended to control the suddenly freed slaves by appealing to their superstition, for the kuklux gave birth to hobgoblins, ghosts and spooks, and was shrouded in the most profound secrecy and mystery. But the klan soon became chargeable with many inexcusable and outrageous crimes.

Some time in the spring of 1867 the judiciary began to take active measures for the suppression of violence attributable to the klan, or, rather, to the lawless bands calling themselves kuklux, for the original organization had by that time ceased to exist.

On March 14, 1867, near the town of Claiborne, Monroe county, Alabama, Amos Bivins, a camp follower of the Union army, who had opened a store in Claiborne, was found dead on the side of the public road. He had been beaten to death with a club or some other heavy weapon.

"Another kuklux victim," was the public verdict, and with this the people were disposed to discard the matter from any further consideration, but Judge Garrow was one of the most earnest among officers of the law, who had decided the time had come in the south for the suppression of crime. He instructed the sheriff to make a most thorough investigation, and, if possible, to bring the murderer or murderers to justice.

It did not take long to fix the crime on Andrew Hastings, who clerked for Bivins. The evidence against Hastings, while circumstantial, was very strong. Having been raised in the South, Hastings had no love for his employer, who was regarded as one of the despised class of "carpet baggers" in those days. He finally quarreled with his employer when reproved for insulting the Union soldiers and negroes who traded at the store. Witnesses testified to this quarrel, which resulted in Hastings being discharged, and there was an abundance of evidence to the fact that as he

left the store he was heard to remark: "I'll fix the d—— Yankee."

It was only two nights after Hastings' discharge that Bivins was killed. Two witnesses swore that Hastings tried to borrow a shotgun from them on the day prior to the murder. It was also proven that Hastings was heard to say when speaking of the killing: "The people ought to give the man who did it a vote of thanks."

Added to all this was the fact that he had gone 'possum hunting alone, leaving home about eight o'clock and returning about one o'clock the next morning. It was for this purpose he attempted to borrow a gun. He proved that it was his custom to go on these night hunts by himself. With his previous good character, this was all there was for the defense.

But Col. Palmer made the most of it and fought the evidence of the prosecution at times with an impassioned manner that almost amounted to a madness. I remember an old lawyer in the courtroom remarking: "Well, I never have seen an attorney so thoroughly identified with his client's interests before." Col. Palmer's argument to the jury, as I said, was a most masterly effort. His face was pale when he arose and walked to the jury box. His voice, although stern and full, trembled as he cried out: "Gentlemen of the jury, God is my witness when I say to you that I am here to plead for the life of an innocent man."

He made but little effort to controvert the damaging evidence against his client. His address was mainly a passionate appeal for mercy for an innocent man who was the victim of peculiar circumstances. He ended his speech by holding his Bible high above his head and saying:

"As true as the Holy Book I hold in my hand, so true is this man innocent. I say to you, I know it. You may call it intuition if you like, but so sure as you convict him you will have the blood of an innocent man upon your heads."

The verdict was "guilty," and Hastings was sentenced to be hanged. The case was appealed to the Supreme Court, and the decision of the lower court was affirmed. An application was made to the Governor for clemency and a petition bearing the names of many prominent citizens of Monroe county was sent to the chief executive. Col. Palmer was leaving no stone unturned to save his client. The strain and hard work was telling on him. He had grown emaciated and more than once had been ill from nervous prostration.

The Governor refused to interfere, but intimated that he might give the case a more favorable consideration if the presiding judge recommended a commutation of sentence. This was regarded as a forlorn hope, the determination of Judge Garrow to suppress crime being well known.

The day of the execution was near at hand and Monroe county was preparing to witness its first hanging in many years. Then, like a thunder clap, came the news that the Governor had pardoned Andrew Hastings. Not even a commutation of the sentence to life imprisonment had been looked for, but here was an absolute pardon, and the murderer with a shadow of the gallows already over him was a free man.

It was some time before the people could be made to believe that the news was true, and many did not believe it until Hastings was allowed to walk from the prison unshackled.

The only reason the Governor assigned was that Judge Garrow had requested it in a private letter, and the appeal was such as not to be disregarded.

But why did Judge Garrow make such a request? His honesty was above suspicion, his integrity was undoubted, and his firmness could not be questioned. Yet, after declaring it his purpose to check the lawlessness then existing by the strong arm of the law, he deliberately used the power of his office to free a man convicted of a most foul murder. What could it mean? The judge would explain. But the judge did not explain, and his silence through all these years has kept the Hastings case one of the strangest of the unexplained murder mysteries of Alabama. When questioned at the time the judge said: "I had just and sufficient reasons for acting as I did."

Time and time again has this case and its strange denouement come before my mind, and often have I tried to reach a solution which would be satisfactory to myself and leave no suspicion upon the memory of a member of the judiciary whose character had always been above reproach.

It is all clear now. Judge Garrow has passed to stand himself before a judge whose justice, it is to be hoped, will be tempered with exceeding great mercy for us all. I have before me this statement, published in a Monroe county paper, and I give it here as the sequel to what I have already recorded:

"*To Those Who May be Living When I am Dead:* I believe if any shall desire to look into my life history they will find nothing that posterity shall be ashamed to read upon my gravestone. Yet there is one transaction of my career as criminal judge which demands of me an explanation. In truth, I should have been ready to meet that demand before I passed away, but I was so placed that my lips were sealed. The wrong (if wrong I did) was in allowing myself to be hampered, but justice to an innocent man weighed in the balance against unjust suspicion toward myself.

"This single act of mine for which I may have borne public condemnation was the part I took in securing a pardon for one Andrew Hastings, arraigned and convicted of the murder of Amos Bivins at the fall term of the Circuit Court in Monroe county, Alabama, October, 1867.

"Without any attempt to criticize the motives of those who thought it wise amid scenes of desolation and lawlessness to hold in check the passions of suddenly freed slaves by an appeal to their superstitious fears, I, with others of the judiciary, determined that the time had come in the South to restore law and order. With the determination to make an example of the first case that came under my jurisdiction, I refused to interfere in the death sentence of Hastings. To this decision I clung, although daily importuned by Colonel George H. Palmer, Hastings' attorney. Never in my experience on the bench had I seen such persistence and dogged perseverance as that lawyer displayed.

"He came to me one day—a week before Hastings was to be executed—and said:

"'Judge Garrow, suppose I should give you proof that another man killed Bivins, would you recommend his pardon?'

"I replied that if the proof was such as to convince me of its reliability I would certainly feel called upon to interfere in the condemned man's behalf.

"'But, judge,' he continued, 'you will have to give me your solemn assurance not to divulge what I relate to you.'

"I demurred to entering into any such compact.

"Remember,' he cried, vehemently, 'while you can wrong no man by your silence, yet if you do not listen to me you will allow an innocent person to die upon the gallows. I swear this before the living God.'

"His manner, as much as anything else, overcame my scruples, and I gave him my promise 'so long as I live' not to reveal any statement he might make to me. Then he said:

"'Judge Garrow, the man, Amos Bivins, met his death as an expiation for a crime he had himself committed. In Virginia, just before the close of the war, with a squad of marauding soldiers, he entered the home of a man who was bearing arms in defense of the very fireside that was being ruthlessly invaded and desecrated. Mother and children had to flee in the night, and she, the mother, met her death from the exposure and fright. This man Bivins was the only one recognized, as he had sold goods about the community from a peddler's pack. The hand which laid the blows upon his head may not have intended to strike life away, but reason lost its sway, and there was naught to stay the avenger's hand but death.'

"He paused a moment, and, letting his hand fall heavily upon my shoulder, he exclaimed huskily:

"'Judge Garrow, I am the murderer!'

"He brought to me the hickory stick, dark in places with the stains of clotted blood. I reviewed his history, his conduct of the case, how he had expended money and devoted his time with no hope of any remuneration. I looked into his face and I knew he had spoken the truth.

"I believe if it had not been for what he considered the justice of his cause and his little children, he would have surrendered at the first. It was undoubtedly his intention to have saved his client even if the last resource should have been to take the prisoner's place upon the gallows.

"There was nothing left for me to do but to urge the pardon of Hastings, and that I did. "J. G. GARROW,

"Judge Monroe County Court."

DOMESTIC ECONOMY.

Hints to Housekeepers.

In hot weather brushes of all kinds when not in use should be suspended in the air.

Pounded glass, mixed with dry cornmeal, and placed within the reach of rats, it is said, will banish them from the premises.

German country women boil in milk the yarn for their home-knit black stockings, so they will not "crock." If black underwear, equestrian tights or stockings that stain are treated in a like manner the result will be found very satisfactory.

Flies dislike the oil from bay leaves. It is not an expensive drug, and if a very little is kept in a dish on the window ledge, or if the doors and window casings are coated with any color of fresh paint, to which 4 per cent of oil of bay has been added, insects will shun them.

The best way to prepare a new iron kettle for use is to fill it with clean potato peelings and water, boil them for an hour or more, then wash the kettle with hot water, wipe dry and rub it with a little lard. Repeat the rubbing several times after using. In this way you will prevent rust and all the annoyances likely to occur in the use of a new kettle.

If it is necessary to wash corsets take out the steels in front and sides, then lay them on a flat surface, and with a small brush scrub them thoroughly with a tepid or cold lather of white castile soap. When quite clean let cold water run on them by holding them under a running faucet until the soap is all rinsed off. Pull them lengthwise until they are straight and shapely, and let them dry in a cool place, pulling them again when partly dry.

In hot weather, if poultry or fresh meat is to be kept over night, place a lump of charcoal in the body, or dust the inside with powdered charcoal. Wash the meat with vinegar. Carbolic paper is used by many butchers for wrapping meats in warm weather, and can be made at home as follows: Into five parts of melted stearine stir two parts of carbolic acid, and then add five parts of paraffine melted with gentle heat. Stir well together until it cools; then apply with a brush to thin, soft paper.

A way to test linen, by means of which the introduction of cotton among the linen threads may be detected, is to cut off a small piece of the material, to unravel the threads, and then to examine them under a strong magnifying glass. The characteristics of flax-threads are very marked. They are in the form of cylindrical stalks, divided at intervals by knots, in the same way as bamboo or sugarcane stalks. Cotton threads are long and flattened like ribbon, waved, twisted in spirals, and granulated on the surface.

Kitchen Lore.

ANCHOVY SANDWICHES. — Anchovy sandwiches are among the easiest of chafing-dish achievements, responding graciously to the advances of the merest tyro in the art. Put a tablespoonful of butter in the cutlet dish, and when very hot lay in thin slices of stale bread, cut even. Do not crowd. As soon as one side is brown, turn. When both sides are a delicate brown, spread lightly with anchovy paste.

LALAH ROOKH.—Beat the whites of four eggs till perfectly stiff. Beat the yellow till creamy, and slowly add one-half cup of powdered sugar. Add one-half cup of fruit juice, and the juice from one lemon. Add one-half pint of cream, whipped; cut in the beaten whites of the four eggs, place in a freezer, pack with salt and ice, and let it stand for two hours before using it.

LEMONADE.—Lemonade seems to be the summer drink par excellence, but there is lemonade and lemonade. Usually it is too sweet or too weak. A good proportion for a two-quart pitcher of lemonade is the juice of five lemons, three-quarters of a pound of white sugar and a quart and a half of water. Pour a little boiling water over the lemon peel, and allow it to stand a few moments to infuse. Add this to the pitcher. Chill thoroughly, add a few bits of ice to each glass, and serve.

APPLE BREAD.—Boil a dozen good-sized apples that have been carefully peeled and cored, until they are perfectly tender. While still warm, mash them in double the amount of flour, and add the proper proportion of yeast. The mass should then be thoroughly kneaded without water, as the juice of the apples will make it sufficiently soft. It should be left to rise for twelve hours, then formed into loaves, and baked when quite light. Apple bread was the invention of a scientific Frenchman, and it has always been highly commended for its healthfulness.

SCRIPTURE CAKE.—At the cake table at a church bazaar, one may sell what is known as a "Scripture cake." With each cake should go a typewritten copy of the receipt inclosed in a sealed envelope:

Four and a half cups of I. Kings iv., 22;
One and a half cups of Judges v., 25 (last clause);
Two cups of Jeremiah vi., 20 (sugar);
Two cups of I. Samuel xxx., 12 (raisins);
Two cups of Nahum iii., 12;
One cup of Numbers xvii., 8;
Two tablespoonfuls of I. Samuel xiv., 25;
Season to taste of II. Chronicles ix., 9;
Six of Jeremiah xvii., 11;
A pinch of Leviticus ii., 13;
Half cup of Judges iv., 19 (last clause):
Two teaspoonfuls of Amos iv., 5 (baking powder).

Follow Solomon's prescription for making a good boy, Proverbs xxiii., 14, and you will have a good cake.

SNOW PUDDING.—Soak one-fourth box of gelatine till soft in one-fourth cup of cold water. Dissolve in one cup of boiling water; strain, then add one cup of sugar and one-fourth cup of lemon juice. When cool and slightly thick, add the beaten whites of three eggs and stir until smooth and thick enough to drop, not run, from the end of the spoon. Should be placed in the cellar or on ice to cool. Make a custard sauce by heating a scant pint of milk, then mix one and one-half tablespoonfuls of sugar with the yellows of three eggs. Beat slightly, add the hot milk, pour this mixture back in the kettle, and cook, stirring constantly till creamy. Strain, cool and flavor with one-half teaspoonful of vanilla. Instead of using one cup of boiling water for the snow pudding, one-third cup may be used, and when the gelatine is dissolved add one scant cup of fruit juice and the juice of one lemon, instead of one-fourth cup of lemon juice. This makes a pleasant change and the various fruits make a pretty variety of puddings — grapes, raspberries and gooseberries are perhaps the best. An orange snow pudding is particularly good, and is not quite such a misnomer as a raspberry one.

Desirable Gowns.

OF CASHMERE OR SOFT WOOL.

926—Jeannette Frock.

Sizes for 4 and 6 years.

A dainty little "Kate Greenaway" frock, so simply fashioned and allowing so much freedom that it will win the favor of mothers. Plain cashmere, Henrietta cloths and challies, as well as many of the lightweight novelty goods, may be used for this model. The full front may be shirred, smocked, or confined by narrow bands of trimming. The frock hangs straight beneath the arms without fullness, and in the back the skirt is gathered to the bottom of a plain waist, and a sash of ribbon or silk is tied across from the side seams. The model gown is of cadet blue cashmere.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

JAUNTY AND BECOMING.

987—Valyance Basque.

Sizes for 34, 36, 38 and 40 Inches Bust Measure.

A fine olive-green whipcord is the fabric of this smart gown, which is especially designed for traveller or general wear, but which offers some novel features for various uses. The coat-like basque—the "Valyance"—is fitted with the usual seams in the back, and box-plaits in the middle and side-seams give added fullness to the skirt. The full blouse front is of brocaded satin, in which shades of green and red prevail. The sleeves are close-fitting to the shoulders, but are draped at the top with three overlapping ruffles of the whipcord bound on the edges with olive velvet to match the revers and cuffs. A broad girdle of black satin crosses the front. The skirt is the "Briano" which is described below.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

926—Briano Skirt.

Sizes—Medium and Large.

A graceful design, having a narrow front gore and six other gored breadths, and measuring about five yards around the bottom; the fullness in the back can be either gathered or plaited, as best suits the figure and the materials selected. Stiff interlining, when used, is confined to a depth of 8 or 10 inches around the bottom. A tape or elastic band tacked across the back on the inside, holds the fullness in place. Any of the popular silk, woolen, or cotton fabrics may be chosen for this model, and it can be worn with any style of coat.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

Fashion Notes.

Capes will be worn for fall wraps, but the novelty of the season will be the Empire or Watteau jackets, which are short and hang full from the neck, with only side and shoulder seams, they have large sleeves, are only suitable for tall, slender figures, and while realy an ugly garment, yet they have an unmistakable air of *chic* when worn by just the right person.

For an inexpensive evening wrap for the fall get a tan, bright blue or silver-gray zibiline, a camel's hair material. Make as a round, full cape coming five inches below the waist line; line with Japanese silk, pink, blue, green or yellow, and interline with one of the goods used especially for a warm interlining. Have a full neck ruche of mousseline de soie and a bow of satin ribbon in front with ends to the lower edge of the cape.

The cloth waists next winter are to have the body of the waist braided and the sleeves plain. This will give much the same effect that having the waist of lace or chiffon has done, and cannot be called an absolutely new idea; it is a becoming style, and so is bound to be popular, although many women perfer the pointed braided vests, with collar and cuffs to match; when the latter style is chosen, the braid is put on velvet, and gives a much richer look. The odd contrasts of color will die out by this means, it is said, but that remains to be seen.

Cut work and applique always are in fashion when braiding is, and lace is now appliqued on the most incongruous of materials. Laid on satin, the rare pieces of old point show to great advantage, but it does seem like vandalism to see lace on some tawdry cotton gown, laid over a bit of odd-colored silk, without any apparent reason. For instance, an apple-green muslin made up over white taffeta, smart looking, to be sure, but of quite inexpensive quality, has a trimming on the waist of real Valenciennes lace appliqued on green silk in long points, sewed down to outline the figure most becomingly. Lace is always so beautiful it seems a pity to use it in such a fashion, and to cut it to ruthlessly as must needs be done to make the jacket effect.

A stylish costume is made of dark-blue Irish poplin. The skirt is five-gored, the half-fitting sleeveless waist is of fancy silk, and there is an Eton jacket of the poplin. The sleeves are leg-o'-mutton, with flaring cuffs, above which are bands of dark-blue velvet. A rather novel idea is shown in the revers, of which there are two sets. The lower ones are made of dark-blue velvet, and are corded with yellow satin. The upper ones are made of yellow satin and are embroidered with a vine in black silk. The round collar is of blue velvet, and above this are rolled over points of the yellow satin with the black embroidery. The effect is pretty, although rather striking.

A cape suitable for cool days or an evening walk is made of black satin. It is cut in sections, and left open in very slender V-shaped divisions. These are filled in with embroidery or lace, and the satin is edged with galloon covered with spangles. There is a high, flaring collar, a very large bow at the back of the neck, and at the front a small bow with very long ribbon ends. The cape is lined with taffeta, and there is a frill of lace around the lower edge.

A costume for a young lady is made with a skirt of dark-blue silk. The skirt is plain and made with five gores. The waist is of blue and rose-colored changeable taffeta. A very wide collar with square tabs reaching out over the sleeves is of antique lace over rose-colored silk. Long points of the lace extend down the front of the waist, and are tucked under the rose-colored silk belt. A rose collar with bows at the sides finishes the neck.

A much admired costume is made of blue taffeta silk, embroidery and brocade in two shades of heliotrope. The five-gored skirt and upper revers are of the blue, the Eton jacket and sleeves are of the brocade. The full vest front, the under revers and the cuffs are of embroidery. The collar, belt and sleeve bands are of blue and gold galloon.

A new sleeve is in leg-o'-mutton shape, but is gathered very full from wrist to elbow. This gives the effect of a puff to the lower portion of the sleeve.

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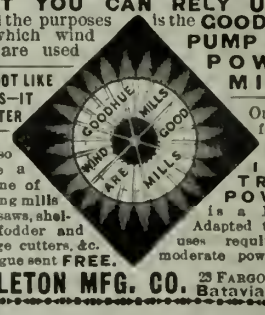

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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Sept. 16, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Tuesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	100,924	1,383,556	749,644
Wheat, ctls	266,635	2,144,099	1,708,668
Barley, ctls	186,359	1,699,412	876,229
Oats, ctls	12,705	91,929	137,128
Corn, ctls	190	33,294	15,306
Rye, ctls	1,423	9,366	6,862
Beans, sks	7,890	58,075	28,524
Potatoes, sks	26,092	217,220	225,323
Onions, sks	3,121	35,043	29,489
Hay, tons	4,757	44,185	45,240
Wool, bales	949	10,586	14,744
Hops, bales	201	735	652

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	87,924	1,169,852	513,407
Wheat, ctls	369,928	1,906,626	1,923,827
Barley, ctls	100,494	1,124,174	428,428
Oats, ctls	348	6,100	4,673
Corn, ctls	166	3,781	4,720
Beans, sks	542	33,084	39,104
Hay, bales	733	7,071	7,467
Wool, lbs	.....	2,768,112	4,138,000
Hops, lbs	6,415	189,116	210,359
Honey, cases	1	216	1,497
Potatoes, pkgs	192	10,860	20,611

Grain Freights and Charters.

While the inquiry for deep-sea ships for grain loading has not been quite so active as a few weeks ago, demand has been fair and the market has ruled tolerably firm, with the quotable rates higher than last noted. An iron ship of medium size which went under engagement at £1 7s 6d to Cork for orders, usual option, was rechartered at £1 8s 9d. The amount of idle tonnage now in port and suitable for the grain-carrying trade is not large, but there is a good-sized fleet headed this way, which is likely to prove ample for the necessities of this season later on.

Charters.

British ship Falls of Afton, 1829 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d, net; option Sydney, 18s 3d.

British ship Androsa, 1892 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d, net—chartered prior to arrival.

British ship John Cooke, 1759 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 8s 9d—rechartered.

Norwegian steamer Lyderhorn, 2014 tons, wheat to St. Vincent for orders, £1 7s 6d—chartered prior to arrival.

British ship Merioneth, 1366 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 8s, net—chartered prior to arrival.

British steamer Evandale, 2468 tons, now on the Sound, wheat from this port to St. Vincent for orders; one port, £1 6s 3d; two ports, £1 7s 6d.

Italian bark Emilia Ciampa, 917 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 11s 3d; direct port, £1 10s.

British ship Lauriston, 2138 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 10s net.

British ship Gunford, 2108 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 10s net.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive.
1896	67,246	12,942	266,334
1895	68,662	15,923	340,070

Flour.

Market presents a fairly steady tone, but is not particularly active. To secure prompt custom for brands which are not very well known, or which are not in high favor with the trade, less than current quotations would very probably have to be accepted. Well established brands are meeting with fair custom, and in a small way are commanding moderately firm figures.

Superfine, lower grades	$2 25@ —
Superfine, good to choice	2 40@2 50
Country grades, extras	2 85@3 15
Choice and extra choice	3 15@3 35
Fancy brands, jobbing	3 35@3 60
Oregon, Bakers' extra	2 75@3 00
Walla Walla, Bakers' extra	2 75@3 00

Wheat.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	4s 10½d@4s 11½d.	5s 7d@5s 8d.
Freight rates,	—@30s.	28¾@31¼s.
Local market,	$0.87½@90	$0.98¾@1.01¼

The prices above are for spot lots of standard No. 1 California in Liverpool, and for good to choice shipping in this city.

Following last review, the local wheat market developed more firmness, more particularly noticeable in speculative operations than in prices obtainable for spot wheat. There was a very fair inquiry, however, on export account within range of the quotations last noted and for particularly desirable lots slightly higher figures were obtainable. Millers did not operate very heavily, neither was there any special competition exhibited in bidding on milling grades. This has been the case almost without exception ever since the establishment of the flour combine in this center. Estimates of the wheat crop of the world warrant anticipating at least a steady market, with possibility of values hardening to some extent later on, although this may prove little if any more than enough to pay for the extra cost of storage, insurance, interest, etc. The world's wheat crop is now stated at 2,268,000,000 bushels, or about 137,000,000 bushels less than last year. In the rye crops of Europe there is an estimated shortage of about 154,000,000 bushels as compared with last year, and a large portion of this deficit will probably have to be made up with wheat. On Monday of this week the Call Board market was strong, being favorably affected by foreign and Eastern advices, and on offerings by sample the tendency was decidedly against buyers. Tuesday options receded slightly, but were strong and higher Wednesday. The sample market closed very firm.

California Milling, old	$1 00 @1 02½
Cal. No. 1 shipping, alongside	97½@1 00
Oregon Valley	95 @1 00
Walla Walla Blue Stem	90 @1 02½
Walla Walla Club	85 @ 97½

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, 99¼c@$1.02½.

May, 1897, delivery, $1.04⅞@1.05½.

Wednesday, at regular noon session of Call Board, December wheat sold at $1.01½@1.02½; May, $——.

Barley.

Two ships have cleared for Europe since last review with barley, one taking a full cargo of this cereal, the other a part cargo, wheat making up the balance. Total shipments of barley for season to date foot up close to 60,000 tons, as against less than 22,000 tons for corresponding period in previous season. Inquiry on shipping account is less active than it was early in the month, but values for desirable export grades are being fairly well sustained. Business on local account has been of only moderate volume, and mainly in feed descriptions. Prices for feed qualities were at a rather wide range, some sellers accepting lower figures than seemed to be necessary, particularly if pains had been taken to canvass the market more thoroughly before closing out. Sales were reported at a difference of 50c or more per ton, when the quality of the offerings was practically the same.

Feed, No. 1 to choice	63¾@65
Feed, fair to good	60 @62½
Brewing, No. 1 to choice new	72½@77½
Chevalier, No. 1 to choice	85 @95
Chevalier, No. 2	60 @75

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, 66@68c; May, 1897, delivery, ——@——c.

Wednesday at regular noon session of the Call Board, December feed sold at 68c.

Oats.

There are not many oats arriving from any quarter, and stocks in the hands of the wholesale and jobbing trade are small. While the market is firm at the prevailing quotations, buyers are operating much more lightly than the early part of last season. Then oats were offering at relatively lower figures than barley, but that is not the case to-day. The yield this season is light in both Oregon and Washington, and to this is mainly attributable the existing firmness of the market.

White Oats, fancy feed	92½@ 95
White, good to choice	85 @ 90
White, poor to fair	75 @ 82½
Gray, common to choice	82½@ 90
Milling	87½@ 92½
Surprise, good to choice	95 @1 02½
New crop Cal. Oats	77½@ 87½

Corn.

Stocks of all kinds are considerably in excess of the immediate demand, which is of insignificant proportions, and the market is naturally lacking in firmness. While there is weakness throughout, the market for Large White is most unfavorable to sellers, supplies of this variety being larger than of either Large or Small Yellow. Some mixed Yellow corn is arriving from Nebraska.

Large White, good to choice	75 @ 77½
Large Yellow	85 @ 87½
Small Yellow	85 @ 87½

Rye.

Offerings are not heavy, but demand is slow and of an indifferent character, causing the market to rule against sellers.

Good to choice, old	67½@ 70
Good to choice, new	65 @ 67½

Buckwheat.

Next to nothing doing in this cereal, and values are poorly defined. Quotations are based on last reported transfers.

Good to choice	90 @ 95

Beans.

New York advices by mail give the bean market as follows in that center, prices quoted being per bushel of 60 lbs.:

General conditions have not changed materially during the week. A very limited business has been done on home account, but a fair quantity of stock has been taken by exporters, and prices have stiffened a little on Marrow and Red Kidney. The latter have advanced 5c. with recent sales to shippers at $1.15, and the feeling quite firm at the close. Choice Marrow in regular size barrels have held at $1.20, and can still be bought at that, but for extra large barrels such as the Havana exporters have called for of late a little more is asked and occasionally obtained. Medium and Pea have but little demand outside of the jobbing trade and as that is light at present the market is slow at $1.05 for best State goods; plenty of good useful Michigan Pea beans in bags are offering at about $1. Only a few White Kidney here and not much call for them. Yellow Eye have had a sale or two at the close at $1.17½; very few lots left. Turtle Soup dull but in small stock. Under some pressure to sell California Limas have declined to $1.55 for spot goods, with offers to sell stock to arrive for less money. European exporters have taken further lots of old foreign beans and have paid up to 70@75c. for them. Old green peas moving very slowly. About a car of new Scotch in bags sold at 75c.

Transactions in the local market continue rather light in the aggregate, and absence of firmness remains a prominent feature. New-crop beans are arriving from Sacramento river district, principally Lady Washingtons or Large Whites, and present trading is mainly in these offerings. Sales on wharf of Lady Washingtons have been mostly within range of 80@90c per cental. Colored beans are not in large stock, and in a jobbing way are commanding comparatively good figures. Limas continue to tend in favor of buyers, with new crop about ready to be harvested, and offering at $35 per ton at southern coast producing points.

Pea, fair to good, 100 lbs	$1 20 @1 35
Small White, good to choice	90 @1 05
Lady Washington	75 @ 90
Butter, small	1 10 @1 25
Pinks	75 @ 85
Bayos, good to choice	1 00 @1 15
Reds	1 20 @1 30
Red Kidneys	1 25 @1 50
Limas, good to choice	1 60 @1 75
Black-eye Beans	1 00 @1 25

Dried Peas.

Virtually no business in this product, and little or nothing upon which to base quotations.

Green Peas, California	$1 15 @1 30
Niles Peas	1 20 @——

Wool.

With a slightly improved tone in Eastern centers, and some business reported there during the past week or ten days, the situation here appears a little more encouraging to producers, but transfers in this center have not been numerous or of large quantities, and it was the exception where to effect sales decidedly low figures did not have to be accepted. Fall clip is beginning to arrive from the lower San Joaquin, with sales down to 2½c. This is low beyond precedent. It is probable that when the market for fall wools fairly opens the range will be at 3@5c on Southerns and San Joaquins, as to quality. Values for spring fleeces remain nominally as before, quotations being more in accord with holder's ideas than with the views of buyers.

SPRING.

Humboldt and Mendocino	9 @11
Northern California free	— @—
Northern defective	5 @ 6
San Joaquin Foothill, good to choice	— @—
San Joaquin, 12 months	4 @ 6½
San Joaquin and Southern, 6 months	4 @ 6
Nevada, as to condition	7 @ 9
Oregon Valley, select	9 @10½
Oregon Valley, low grade	8 @ 9½

FALL.

San Joaquin	3 @ 5

Hops.

The Eastern hop market is thus summarized by a New York authority:

There is still much uncertainty as to the quantity and quality of the incoming crop, both in this country and abroad, and this has a restraining influence on all classes of buyers. Brewers are carrying liberal stocks of old hops over into the new season, and having secured them at low figures they seem to feel quite independent of the course of a market. If there were strong indications of the marked rise in values it would probably be more easy to get the larger brewers interested, but they are now apparently willing to take the chances of securing additional supplies when needed. So far as the export trade is concerned there is nothing encouraging at present. Shippers are wholly without orders, and cannot be tempted to send stock abroad on their own account. The quantity of hops that changes hands between dealers is next to nothing, in fact the business passing in all directions is so light as to make the line of values almost nominal. The samples of new seedings shown so far are disappointing; they are green and unattractive, and not wanted. Picking on the main crop is in progress throughout the State, but growers have hardly gone far enough to say positively what the yield will be. Country papers still insist on a shrinkage of 40 per cent.

Present prospects are that there will be very few hops this season which will return any profit to growers. Many are advising farmers not to pick. If this course was generally followed, the market might rally a little later on, and then some who had not picked might be lamenting their fate. It is certainly difficult to determine just what would be for the best. If most of the growers pick, their chances for realizing cost will not be first-class. If growers do not pick they will certainly realize nothing beyond saving their labor. Neither horn of the dilemma presents any very attractive feature.

Fair to choice, 1895 crop	2 @4

Hay and Straw.

Hay has been arriving tolerably freely the past week, with demand far from being brisk for either immediate or forward deliveries. Prices for most kinds have been maintained close to the range last quoted, not due to the presence of any firmness in the market, but to the fact that existing values are extremely low, affording little or no profit to the producer. Straw remains quotably as before, and is in poor request.

NEW HAY.

Wheat	5 00@ 9 50
Wheat and Oat	5 00@ 7 50
Oat	5 00@ 7 00
Barley	5 00@ 7 50
Clover	5 00@ 7 00
Stock Hay	4 00@ 5 00
Alfalfa, first cutting	4 00@ 5 00
Alfalfa, second cutting	5 50@ 6 50
Compressed	6 00@ 9 00
Straw, ℔ bale	25@ 35

Millstuffs.

Most descriptions are in more than ample stock to accommodate the existing demand and the general tendency of prices has been in favor of buyers.

Bran, ℔ ton	11 00@13 00
Middlings	14 00@16 50
Barley, Rolled	14 50@15 00
Cornmeal	19 50@20 00
Cracked Corn	20 50@— —

Seeds.

Mustard seed of current crop has arrived the past week to the extent of over 2000 sacks. Offerings up to date have been mostly under choice, and for such the market has not been especially firm. Strictly choice of either Brown or Yellow is scarce, and, to readily secure such stock, buyers would have to pay an advance on outside quotation. Flaxseed remains without improvement.

	Per ctl.
Mustard, Yellow	1 50@1 75
Mustard, Trieste Seed	2 60@2 75
Mustard, Wild Brown	1 75@2 25
Flax	1 25@1 30
	Per lb.
Canary	2½@2¾
Rape	2 @2½
Hemp	3¼@3½
Alfalfa, Utah	—@ —

Bags and Bagging.

September is usually a dull month in the grain bag trade, and this year is proving no exception. Values remain nominally as before, but if there was any disposition to do any noteworthy buying, there would be little or no trouble in getting prices shaded. In wool sacks there is next to nothing doing. Market for nearly all descriptions of bags is quiet and in the main easy in tone.

Grain bags, 22x36, spot	4¼@ 4½
Wool sacks, 4 lb	28 @—
Wool sacks, 3½ lb	26 @—
Gunnies	9 @—
Bean bags	4 @ 4¼
Fruit sacks, cotton	5½@ 7½

Hides, Pelts and Tallow.

There is a little better tone reported in

Dried Fruit
HIGHER AND WANTED.

Parties having Dried Fruit or Nuts for sale will find it decidedly to their advantage to ship the same to us, or send us samples by mail, before disposing of it elsewhere. We always guarantee the highest market prices. Quick sales and prompt cash returns made for all produce entrusted to our care. Liberal advances made on any size shipments of produce. Consignments and correspondence solicited.

W. C. PRICE & CO.,
425 FRONT STREET, San Francisco, Cal.

Eastern centers, which is partly reflected here, and local values show slight no quotable appreciation.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	6½@—	5½@—
Medium Steers, 48 to 56 lbs	5½@ 6	4½@ 5
Light Steers, under 48 lbs	4 @ 4½	3½@ 4
Heavy Cow Hides, over 50 lbs.	5 @—	4 @ 4½
Light Cow Hides, under 50 lbs.	4 @ 4½	3½@ 4
Wet Salted Kip	— @ 5	— @ 4
Wet Salted Veal	5 @ 6	4½@ 5
Wet Salted Calf	6 @ 7	5½@ 6
Dry Hides, round lots, 7½@9c.	9 @10	7 @ 7½
Dry Kip and Veal, 11 to 16 lbs.	8 @—	6 @ 7
Dry Calf, under 4 lbs	— @15	— @10
Horse Hides, large		75@1 00
Horse Hides, medium		50@ 75
Horse Hides, small		25@ 50
Colts' Hides		—@ 25
Pelts, long wool, per skin		50 @60
Pelts, medium, per skin		40 @50
Pelts, short wool, per skin		20 @35
Pelts, shearling, per skin		10 @15
Deer Skins, best summer		20 @25
Deer Skins, good medium		15 @20
Deer Skins, thin winter		7 @ 9
Elk Hides		8 @ 9
Tallow, good quality		2½@—
Tallow, No. 2		2 @—
Goat Skins, perfect		20 @35
Goat Skins, damaged		10 @20
Kid Skins		5 @—

Honey.

In a former review it was noted that honey was being offered in this market from Austria. The following letter, received by a leading house in the honey trade, is the authority for the statement:

AUSSIG-A-ELBE, DEN 2ND AUG. 1896.

GENTLEMEN: We beg to mail you a type sample of guaranteed pure new-crop honey of finest quality, which we beg to offer to you, subject to fluctuation, viz: 250 hhls. @ 210-220 kilos, choicest quality, at 48s. per 2 cwt., c. and f. at New York, 10 per cent tare, shipment via Hamburg, 90 days date, full credit on first-rate London bankers opened when giving us the order. Two per cent commission is included in our price for you. We understand from reports the crop in honey will be short in California and Canada, and as also the reports from Havana will show a considerable falling off, compared with last year, we hope therefore to come to business with your goodselves in this article, the more as our prices are quoted very low. Soliciting your early good news, we are, yours very truly, K—— & S——.

There is a moderate quantity of new crop comb, for which there is only local demand and that not very active. Last year's extracted is still in fair supply, but is quite steadily held and is not meeting with much custom at the figures now demanded. A wheat ship clearing yesterday for Liverpool took 500 cases extracted honey of 1895 crop.

White Comb, 1-lb frames	10 @—
Amber Comb	7½@ 9
Extracted, White Liquid	5 @ 5½
Extracted, Light Amber	4½@ 4¾
Amber Colored and Candied	3¾@ 4
Dark Tule	2¾@ 3

Beeswax.

There is no heavy quantity on market, and buyers in search of this product find it necessary to pay full current rates, particularly if they are exacting as to quality.

Fair to choice, ₱ lb	23@26

Live Stock and Meats.

Hogs continue to meet with a weak market, and packers claim that prices now being paid are still above the parity of values current East. In quotations for beef and mutton there are no noteworthy changes to record. Following are the wholesale rates:

Beef, 1st quality, dressed, net ₱ lb	4½@ 5
Beef, 2d quality	4 @ 4½
Beef, 3d quality	3½@—
Mutton—ewes, 4@4½c; wethers	4½@ 5
Hogs, hard grain fed, medium size, fat	2⅞@—
Hogs, large bard	2⅝@—
Hogs, soft and feeders	— @—
Hogs, country dressed	4 @—
Veal, small, ₱ lb	5 @ 6
Lamb, spring, ₱ lb	5 @ 6

Poultry.

This market did not show much change from the general condition of preceding week. Considerable stock was carried over by retailers, so that there were not very many eager buyers for the ordinary run of offerings. Most of the poultry now arriving is in too poor flesh to be sought after. In addition to this, it is the exception where the fowls are large enough to be desirable. Quotations are based on prices for average stock. Big and fat fowls command more money.

Turkeys, live hens, ₱ lb	12@ 13
Turkeys, live gobblers	13@ 14
Turkeys, large young	15@ 16
Hens, Cal., ₱ doz	4 00@5 00
Roosters, old	4 00@4 50
Roosters, young, (full-grown)	4 00@5 00
Fryers	2 50@3 00
Broilers, large	2 50@2 75
Broilers, small	1 75@2 25
Ducks, young, ₱ doz	3 00@3 50
Ducks, old	3 00@3 25
Geese, ₱ pair	1 00@1 25
Goslings, ₱ pair	1 25@1 50
Pigeons, Old, ₱ doz	1 50@1 75
Pigeons, Young	1 50@1 75

Butter.

The advanced figures established last week for the higher grades of fresh butter have decreased the demand to a material degree, as was to have been anticipated. With fairly liberal receipts this week, mostly from Northern creameries, this market has been a little top-heavy. Retailers operated lightly at the advanced figures, finding most consumers unwilling to pay the prices asked for desirable fresh. Sales at full current rates were confined to the most favorite marks. Packed butter is receiving considerable attention, but prices for packed product are no higher, market being well stocked.

Creamery extras, ₱ lb	26 @27
Creamery firsts	24 @25
Creamery seconds	21 @23
Dairy select	23 @24
Dairy seconds	18 @21
Dairy, soft and weedy	— @—
Mixed store	11 @13
Creamery in tubs	15 @16
Pickled roll	15 @16
Dairy in tubs	14 @15
Firkin, Cal., choice to select	14 @15
Firkin, common to fair	11 @12½

Cheese.

Full cream cheese, not over two months from the press, and in every way desirable for the most fastidious trade, is in small supply and salable to advantage. Of all other descriptions, however, there is enough for immediate requirements. There is considerable cheese on the market which has been held for some time, and values for the same are barely steady.

California fancy flat, new	8½@ 9½
California, good to choice	7½@ 8½
California, fair to good	7 @ 8
California, "Young Americas"	8 @10

Eggs.

Choice to select, direct from ranch or henery and which could be depended upon to give satisfaction to the most exacting trade, were in light receipt and commanded an advance, with market firm at the improved figures. Seriously defective qualities dragged about as badly as ever, buyers taking Eastern in preference, the latter being in fair supply.

California, select, large white and fresh	26 @28
California, select, irregular color & size	20 @25
California, good to choice store	15 @19
California, common to fair store	12 @14
Oregon, prime	17 @19
Eastern, as to section and grading	15 @19
Eastern, seconds	12 @14
Duck eggs	18 @20

Vegetables.

With seasonable varieties the market has been as a rule very well stocked, and there have been no noteworthy exceptions where prices have inclined to any marked degree in favor of the selling interest. Onions, tomatoes and corn were plentiful and cheap.

Asparagus, Fancy, ₱ box	— —@— —
Asparagus, common to good, ₱ box	— —@— —
Beans, String, ₱ sack	50@ 1 00
Beans, Wax, ₱ lb	1½@ 3
Beans, Garden, ₱ lb	2@ 3
Beans, Lima, ₱ lb	1½@ 3
Cabbage, choice garden, ₱ 100	50@ 60
Cauliflower, ₱ doz	40@ 50
Corn, Alameda Sweet, ₱ crate	1 00@ 1 25
Corn, Berkeley, ₱ crate	65@ 1 00
Corn, Green, ₱ sack	50@ 75
Corn, Vacaville and Winters, ₱ crate	— —@— —
Cucumbers, Alameda, large box	15@ 25
Egg Plant, ₱ box	25@ 40
Garlic, ₱ lb	1@ 2
Okra, Green, ₱ box	25@ 40
Onions, Red, ₱ cental	—@—
Onions, Yellow, good to choice	30@ 37½
Peas, Green, ₱ sack	50@ 1 00
Peppers, Green Chile, ₱ box	25@ 50
Pepper, Bell, ₱ large box	40@ 50
Pickles, No. 1, ₱ 100 lbs	75@ 1 25
Pickles, No. 2, ₱ 100 lbs	40@ 50
Rhubarb, ₱ box	—@—
Squash, Bay, ₱ large box	15@ 25
Tomatoes, River, per large box	15@ 25
Tomatoes, Bay, ₱ box	15@ 30

Potatoes.

Arrivals of ordinary qualities, such as common Sacramento river stock, have been sufficiently heavy to keep market for same in unsatisfactory shape for sellers. For choice to select, such as best Salinas Burbanks, comparatively good figures were realized, and the latter were salable more readily at top prices than were common at the lowest figures current. Sweets ruled fairly steady, but were in sufficient supply for all needs.

IN SACKS.

Early Rose, River, ₱ cental	25@ 35
Peerless, River	—@—
Garnet Chile, Mission	40@ 50
Burbanks, River	25@ 35
Burbanks, Salinas	60@ 90
Sweet Potatoes	75@1 25

The Fruit Market.

Fresh Fruits.

Of the various kinds of fresh fruit now in season, there have been few varieties in heavy stock the current week. It was the exception, however, where any active demand was experienced, and supplies of most varieties proved sufficient to satisfy immediate needs.

Apples of common to medium quality were fairly plentiful as compared with the demand, and market for these descriptions lacked firmness. Most of the apples offering are more or less wormy and otherwise faulty. Such as could be termed choice, or which were large, ripe and sound, were scarce and likely to remain so during the most of the season. Market for choice to fancy stock was decidedly firm.

Peaches are showing decreased receipt, but with little demand other than for immediate local use, the market did not display any special firmness, unless for strictly fancy qualities, some of the latter selling above quotations.

Pears now arriving are mainly of the early fall varieties, and include few which are especially sought after or are in great favor with consumers. Bartletts are almost out of season. Choice of this variety would sell readily and command good prices.

Neither plums nor prunes made much of a display. There was a fair inquiry for the more desirable varieties, with market moderately firm at the quotations. Large and light-colored plums were most in favor with the majority of consumers. In prunes, the Hungarian variety, as a rule, receives the preference, but there are few if any of these now offering.

Figs continue to have a representation, but with a slow and indifferent demand for this fruit at this date, it is the exception when very satisfactory figures to sellers or producers are obtainable.

Watermelons were in liberal stock and were offered at such easy figures that no consumer could complain. Cantaloupes and Nutmeg melons were also in ample supply, and sold at lower average prices than during preceding week.

Berries of the varieties now in season were in rather light receipt, but for most kinds market was not appreciably higher. Longworth Strawberries were too scarce to be quotable in a regular way.

Grapes are coming forward in fairly liberal quantity, but the aggregate of receipts is not nearly so large as for corresponding date in some previous years. Present offerings include some of excellent quality. Quotable values show few changes, but market is weak for ordinary stock and barely steady for the better grades.

Apples, Gravenstein, fancy, 4-tier	1 00@ 1 25
Apples, Gravenstein, 50-lb box	60@ 90
Apples, Bellflower, 50-lb box	50@ 1 00
Apples, Green, ₱ 50-lb. box	30@ 65
Crabapples, ₱ box	—@—
Figs, Black, ₱ 2-tier 15-lb box	50@ 75
Figs, Black, ₱ 1-tier box	30@ 50
Figs, White, ₱ box	30@ 50
Nectarines, Red, ₱ box	—@—
Nectarines, White, ₱ box	—@—
Prunes, Falkenburg, ₱ crate	50@ 65
Prunes, Hungarian, ₱ box	—@—
Prunes, German, ₱ box	35@ 40
Peaches, fancy wrapped, ₱ box	50@ 75
Peaches, good to choice, ₱ box	35@ 60
Peaches, Cling, per ton	20 00@30 00
Pears, Bartlett, ₱ ton	— —@— —
Pears, Bartlett, No. 1, per box	65@ 75
Pears, Bartlett, No. 2, per box	35@ 50
Pears, other kinds, ₱ box	20@ 60
Plums, choice, large, ₱ box	40@ 65
Plums, other kinds, lb box	25@ 50
Plums, ₱ crate	40@ 75
Nutmeg melons, ₱ box	25@ 50
Watermelons, per 100	3 00@ 7 00
Canteloupes, per crate	40@ 90

Berries.

Blackberries, ₱ chest	2 50@ 3 50
Currants, Red, ₱ chest	— —@— —
Raspberries, ₱ chest	3 50@ 5 00
Strawberries, Longworth, ₱ chest	— —@— —
Strawberries, Large, ₱ chest	4 00@ 5 00
Whortleberries, ₱ lb	7@ 9

Grapes.

Black Hamburg, ₱ box	25@ 40
Fontainebleau, Cal., per crate	25@ 40
Fontainebleau, Cal., per box	20@ 35
Muscat, per box	25@ 40
Muscat, ₱ crate	35@ 50
Rose of Peru, ₱ box	25@ 40
Rose of Peru, ₱ crate	35@ 50
Royal Isabella, ₱ crate	1 25@ 1 50
Seedless Sultana, ₱ box	40@ 50
Tokay, ₱ crate	50@ 75
Zinfandel, ₱ ton	20 00@24 00

Dried Fruit.

The New York dried fruit market is reported as follows in a trade circular of recent date:

Trade has generally been dull and market quiet and without important features. A few fancy old evaporated apples are left and held at 5½c. with prime to choice ranging from 4@5c. but demand is limited and only a few jobbing sales reported. New evaporated arrive sparingly and prices hardly established; average quality offering are not salable above 4@5c. though some fancy held materially higher. Sales are still reported for future delivery at 4⅛@4¾c. for prime. A car of new chops arrived which is offered at 1¾c. without attracting attention. Chops for future delivery can be bought at 1⅝c., possibly a fraction less, though some makers holding for a shade more. Cores and skins are offered for furture delivery at about 1¾c. Peaches entirely nominal. Scarcely anything doing in cherries. Raspberries have had a little more attention this week and tone is steady. Huckleberries held at 8c. but few sales possible; buyers would pay about 7c. Old huckleberries offered at 7c. Blackberries have some call and worth 4@4½c. California apricots in fair demand; some very fancy old Moorparks sold at 11@12c. and a car of new in at the close is offered at 11½@12c. Three cars of peaches also in at the close and offered at 6c. for Crawford, 7c. for Cling and 7½c. for Oregon Cling, with boxes held ½c. higher. The first car of new prunes is due. Fruit is quoted on the Coast as follows: Moorpark apricots 10c.; peaches 3½@6½c.; prunes 2¾c. for the four sizes.

A fair amount of business is reported doing in dried fruits, but it is mostly of a retail character. Both Eastern and local buyers are looking around considerably, but are mainly in quest of bargains, and as a rule purchase only to cover most immediate necessities.

Apricots continue to rule firm and are held in most instances above buyers' views. Stocks now being presented for sale and inspection are mainly of the lower grades. Prime are offering at 5c., with 6c. asked for medium, 7c. for standard, 7½c. for choice, and fancy held still higher.

In peaches there is a fair movement at tolerably steady rates. Sales are noted, f. o. b., at interior shipping points, of choice peaches at 3½c., extra choice at 3¾c., and fancy at 5¼@5½c. For some strictly hand-picked, bright yellow of very superior quality 7¼@7½c. is asked. White nectarines have been placed in a wholesale way at 3½c.

Prunes of 1895 curing are not now offering in large quantity. Some 40-50s in sacks were this week placed at 4c. For new Santa Clara prunes, September shipment, 3¼c. is asked for the four sizes.

In pitted plums not much has been yet done this season, and there is a diversity of opinion as to values. For some fancy stock 7½c. is asked, but 6c. is the very highest price at which any sales have been effected, and this figure is possible only in a small way for most select.

Apples of this season's curing are being held as a rule within range of 2¼@2¾c. for sundried sliced and ringed, and 5@5½c. for evaporated in 50-lb. boxes.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	6½ @ 7
Apricots, Royal, fancy	7 @ 8
Apricots, Moorpark	10 @11
Apples, in boxes	4½@ 5
Nectarines, White	4½@ 5
Nectarines, Red	3½@ 4
Peaches, unpeeled, prime to choice	3 @ 4
Peaches, unpeeled, choice and fancy	4 @ 6
Peaches, peeled, in boxes	8 @11
Pears, peeled and sliced	4 @ —
Pears, halved, unpeeled Bartletts	4 @ 5
Pears, quartered, unpeeled Bartletts	3 @ 4
Plums, pitted	3½@ 5
Prunes, in sacks, 4 sizes	2¾@ 3
Prunes, in sacks, small sizes	1½@ 2

COMMON SUN-DRIED.

Apricots, ordinary	5 @ 5½
Apples, sliced	2 @ 2½
Apples, quartered	2½@ 3
Figs, Black	2 @ 2¼
Figs, White	3 @ 4
Peaches, unpeeled	2½@ 3½
Plums, unpitted	1 @ 1½

Raisins.

There is some light trading in futures within range of generally unchanged figures. For 3-crown London layers, f. o. b. at Fresno, $1@1.10 per box is being asked, as to quantity and brand, for shipments during first half of October. Spot stocks of last crop are practically exhausted.

FIRST HALF OCTOBER SHIPMENTS.

Imperial Clusters, per box	2 50 @ —
Dehesa Clusters, per box	1 75@ 2 25
Fancy Clusters, per box	1 40@ 1 50
Boxes, London layers, 20-lb box	1 05@ 1 10
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ₱ lb	4 @4½

SPECIAL PRICE LIST FOR THIS WEEK.

Corned Beef, 2-lb., with patent key opener, per doz	$1.75
Good English Breakfast Tea, just imported, per lb	.17
Pouchong Tea, by the chest, per lb	.10
Holland Herrings, in full-size kegs, 20 lbs. gross; fresh, new goods; kegs bright and clean; per keg	1.00

WE WILL QUOTE YOU PRICES ON ANYTHING ON EARTH.

J. M. MOORE, 221-223 FRONT ST., SAN FRANCISCO, CALIFORNIA.

HOLCOMBE BROS.

116 California St., San Francisco, Cal.

Brokers

—IN—

DRIED FRUITS

Consignments Solicited. Advances Made.

MOORE, FERGUSON & CO.

WOOL, GRAIN, FLOUR

—AND—

General Commission Merchants,

310 CALIFORNIA ST., S. F.

Members of the San Francisco Produce Exchange.

Personal attention given to sales and liberal advances made on consignments at low rates of interest.

Loose Muscatel, 3-crown	3¼@ —
Loose Muscatel, 2-crown	2¾@ —
Sultanas	4 @ —
Seedless Muscatel	2½@3½
Dried Grapes	2½@3

Citrus Fruit.

Lemons are in fair supply and offering at about same range of figures last quoted. Only desirable sizes which have been well sweated are receiving any special attention. There are some of very common quality, for which lowest quotation below noted is not readily realized. Limes have been offering at slightly reduced figures.

Oranges—Wash. Navels, ℔ box	— —@— —
Cal. Mediterranean Sweet	1 50@ 2 00
Cal. Seedlings	— —@— —
Cal. Valencias	2 50@ 3 50
Lemons—Cal., select, ℔ box	3 00@ 3 50
Cal., good to choice	2 00@ 3 00
Cal., common to good	1 00@ 2 00
Limes—Mexican, ℔ box	5 00@ 6 00
Cal., small box	1 00@ 1 25

Nuts.

In spot stocks there is little offering and scarcely any inquiry. Some sales of new almonds for forward delivery are reported at 8½@9c for paper shells, 7½@8c for soft shells and 6@½c for standards. Values for new white walnuts remain undefined, but it is thought the market will open somewhere near the quotations below noted.

California Almonds, paper shell	8½@ 9
California Almonds, soft shell	7 @ 7½
California Almonds, standard	6 @ 6½
California Almonds, hard shell	4½@ 5
Walnuts White, paper shell	9 @10
Walnuts White, soft shell	8 @ 8½
Walnuts White, Cal., hard shell	6¼@ 7
Peanuts, Cal., fair to prime	4 @ 5
Peanuts, Eastern hand-picked	5 @ 6
Pine Nuts	12 @15

California Fruit Sales.

CHICAGO, September 9.—Sales of California fruit to-day: Pears—Bartlett, $1.35@1.40. Grapes—Tokay, $1.55; Muscat, $1.30. Peaches—Salway, 35c; Piquets, late, 85c.

NEW YORK, September 9.—Sales of California fruit to-day: Pears—Bartlett, $1@1.25; same in bad order, 60c@$1; Beurre Hardy, $1.30@1.45. Grapes — Tokay, $1.05@2.25; Fontainbleau, 80c; Muscat, 60c@$1.15. Plums—Kelsey Japan, $1.25; Ickwitch, $1.35; Golden Drop, $1.10@1.25; Bradshaw, 80c@$1.05. Prunes—German, $1.25@1.70; Gros, $1.40@1.55; Silver, 75c@$1.30. Peaches—Crawford, $1.45; Orange Cling, 95c@$1 35; Strawberry Cling, $1.25.

CHICAGO, September 10.—Sales of California fruit sold to-day: Pears—Bartlett, $1.25@1.45. Grapes—Tokay, 70c@$2; Muscat, 45c@$1. Peaches—Salway, 45@80c; Piquet, late, 70c.

NEW YORK, September 10.—Sales of California fruit to-day: Grapes—Tokay, $1.50@1.85 per half crate; Muscat, $1.10. Pears—Bartlett, $1.50@1.80 per box and 75@95c per half box; Souvenir de Congress, $1.45 per box. Peaches—Piquot, late, $1.35@1.45 per box. Plums—Japan, $1@1.10 per half crate.

CHICAGO, September 11.— Sales of California fruit to-day: Pears—Bartlett, 75@$1.45. Grapes—Tokay, 55c@1.50. Prunes—Hungarian, $1.40@1.50; Gros, $1.70; German, $1.15. Quinces, $1.25@1.30. Peaches—Orange Cling, 60@80c.

NEW YORK, September 11.—Sales of California fruit to-day: Pears—Bartlett, $1.10@1.75; Beurre de Anjou, $1.25; Duchess, $1.05@1.40; Beurre Hardy, $1.15@1.20. Grapes—Tokay, $1 30@1.85; Muscat, 75c@$1.40. Plums—Kelsey, 92c@$2 15; Egg, 95c@$1 50. Prunes—Hungarian, $1.70; Italian, $1.45@1.50; German, $1.35@1.60; Gros, $1.60@1.70. Peaches, 85c@$1.25.

CHICAGO, September 14.—Sales of California fruit to-day: Grapes—Tokay, $2.60 double crate, 45c@$1.05 single crate; Muscat, 60@70c. Pears—Bartlett, $1.15@1.45 per box and 90c per half box. Prunes—Hungarian, $1.15 per half crate. Plums—90c per half crate. Peaches—Salway, 35@65c per box; Piquet, late, 60c.

NEW YORK, September 14.—Sales of California fruit to-day: Pears—Bartlett, $1.15@1.85; Rowell, $1.05@1.15; Beurre Hardy, 75c@1.20. Prunes—Hungarian, $1.75; Gros, $1.50@1.75; Italian $1.20@1.40; German, $1.15. Plums—Kelsey, $1.15@1.25. Grapes—Tokay, 90c@$1.60. Peaches, 60@80c.

CHICAGO, September 15.—California fruit sold today as follows: Pears — Bart ett, $1.05@1.30. Grapes—Tokay, 80c@$1.10. Prunes—Hungarian, $1@1.30; Gros, $1.10@1 45; Fellenberg, $1.15; Silver, 70c@$1.20; Italian, 75c@$1.20. Peaches—Orange Cling, 70c; Strawberry, 65c.

NEW YORK, September 15.—California fruit sold to-day as follows: Pears—Du de Comice, $1.65 ℔ box; B. Clairgeaus, $1.90; Bartletts, $1.25@1.80; Summer Seckels, 50c ℔ half box. Grapes—Tokays, $1.15@1.80 ℔ half crate; Muscats, 85c@$1.15; Morocco, 95c. Prunes—German, $1.40 ℔ half crate; Silver, $1.20. Plums—Japan, $1.15 ℔ half crate. Peaches—La Grande, 85c ℔ box; Salways, 55@75c; other varieties, 40@75c.

Sixteen Ounces to One Pound.

The well-known co-operative and jobbing house of J. M. Moore, at 221 and 223 Front street, is a convenient medium for farmers, fruit growers and ranchers to deal with for any and all supplies, as Moore buys in the open market for cash and aside from his bedrock prices quoted to his clients, they save the expense of a trip to San Francisco as well as valuable time, not to speak of the advantages he has in being able to buy cheaper than the producer. Among the specialities he offers for the next ten days at a bargain are high-arm sewing machines at $22, barbed wire, ranges, windmills and groceries on a two per cent margin for cash. Send for a price list and read his advertisement under the best market report published in the State. *

The Demand for Products.

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From San Jose Grange.

Tribute to the Memory of Late Brother Ohleyer.

The sad death of our brother, George Ohleyer, has filled our hearts with sorrow.

We know too well the irreparable loss the Order of Patrons of Husbandry has sustained in the death of the trusted and efficient officer, this true brother and this noble man.

To this individual Grange, to the Order at large, and to every brother and sister of the Order we say: your loss is our loss; we sorrow with you.

To her who called him husband and to those who are his children, San Jose Grange extends a deep and sincere sympathy, more than fraternal, for we also loved the man whose life on earth is ended.

While we miss his kindly interest, his valuable advice in our labors, there is a ray of light in the darkness, it is that it has fallen our lot to have known him and to have called him brother and friend.

S. A. DURKEE,
D. COATES,
M. J. WORTHEN,
Committee.

Force of Water Pressure.

A crushed mass of cast metal now lying in a scrap yard at Pittsburg demonstrates the tremendous pressure of water at a great depth. It was constructed for a diving bell, and was intended for use in Lake Michigan. As originally constructed, it was a cube about six feet square, tapering slightly at both ends. The material was phosphor bronze, five-eighths of an inch thick. Each plate was cast with a flange and they were bolted together, the bolts being placed as closely together as was consistent with strength. The side plates were further strengthened by ribs an inch thick and two inches wide, and the entire structure was strongly braced. The windows, intended to be used as outlooks by the divers inside, were three inches square, fortified with iron bars and set with glass plates an inch thick. The entire weight of the bell was 23,000 pounds. When completed, it was sent to Milwaukee and towed out into the lake about twelve miles, where there was over 200 feet of water, and was sent down for a test.

The manufacturer of the bell was so confident of its strength that he wanted to go down in it on the test trip. It was well he did not. When it had reached a depth of about 200 feet, strong timbers which had been attached to it came to the surface in a splintered condition. Suspecting an accident, the bell was hauled up and found to be crushed into a shapeless mass. The inch-thick plate glass bull's eyes were pulverized and the entire body of the bell forced inward until none of its original outlines remained. On a basis of 200 feet depth, the pressure that crushed this seemingly invulnerable structure was 86.8 pounds per square inch, or 353,924 pounds to each side of six feet square. The total pressure, therefore, on the cube was 2,723,548 pounds, or 1361.7 tons.—The Foundry.

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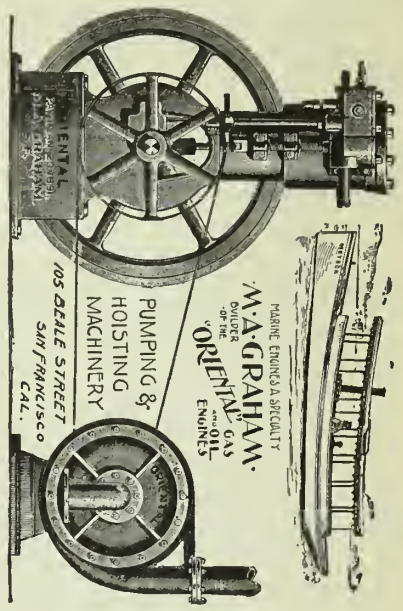

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6	38	1¾	Concord Steel.	3 in.	4000 lbs.
1	40	2	"	2½ in.	6000 lbs.
1	40	2	"	3 in.	6000 lbs.
2	40	2	"	4 in.	6000 lbs.
8	18	3¼	Steel Skein...	2 in.	4000 lbs.
2	18	3¼	"	2½ in.	4000 lbs.
8	19	3½	"	2¼ in.	5000 lbs.
4	19	3½	"	3 in.	5000 lbs.

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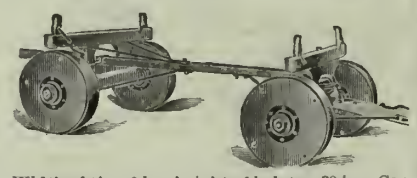

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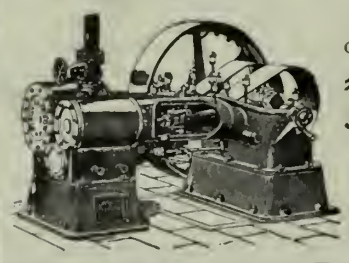

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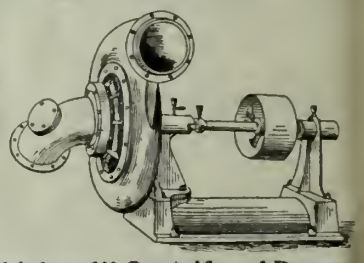

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THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

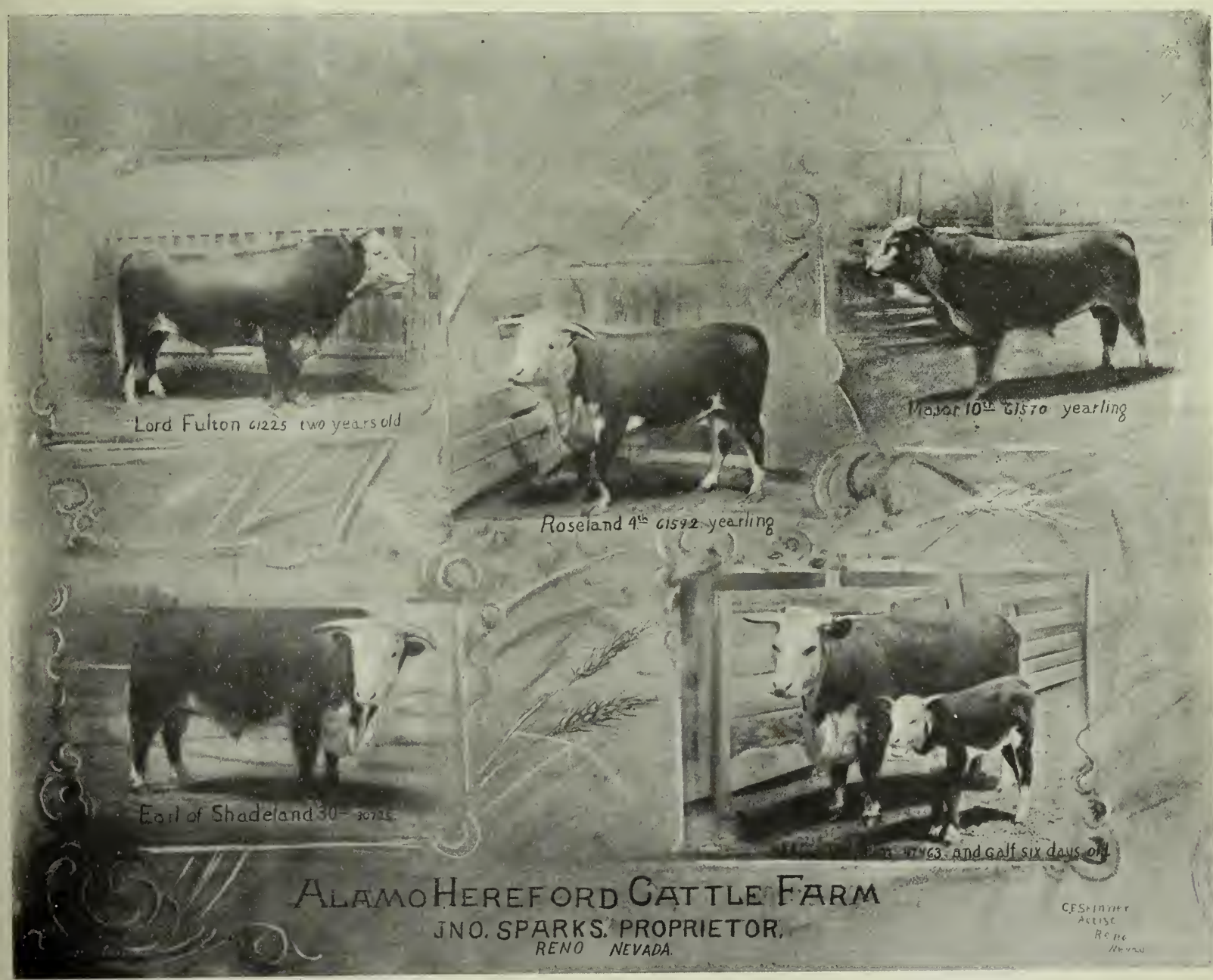
Vol. LII. No. 13. SAN FRANCISCO, SATURDAY, SEPTEMBER 26, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.

Paper not taken from the Library.

CALIFORNIA STATE LIBRARY

A Herd of Prize Winners at the State Fair.

The practices of cattle breeding on the Pacific coast of late years have referred more particularly to the requirements of the dairy than to those of the general stockman and the butcher. This is especially the case in California, and it is a fact that, of late, the hardier families and the sturdy beef breeds have been allowed to somewhat run down. What California breeders have thus neglected a Nevadan—Mr. John Sparks of Reno—has been making his specialty; and he opened the eyes of a good many people by an exhibit at the recent State Fair at Sacramento which could not be matched in this State, and which easily carried off the honors in its class. The "Alamo Hereford Cattle Farm," as Mr. Sparks calls his breeding establishment, is near Reno, not far from the California boundary line, and it is the home of about two hundred Herefords; and it was from this herd that the exhibit for the State Fair was selected. The foundation of this herd was laid by Mr. Sparks seventeen years ago by a purchase of the best individuals of pure Hereford blood that could be got for money; and it has since been added to by new purchases at fabulous prices of prize winners, both in the United States and in Europe. The result is a herd pronounced by such well-known and expert stockmen as Mr. Frederick Cox, expresident of the State Board of Agriculture, and his partner, Mr. Clark, to be the peer of any in the United States. The experience of this herd of twenty-five Herefords in the prize yards at Sacramento is unique, never having been matched in the records of the Fair. In a sharp competition it was awarded all the premiums contended for except one, numbering forty-two individual, special and sweepstakes, aggregating in cash $601.50. One striking feature of this herd is that its individuals bear uniformly the regulation marks of the thoroughbred Hereford—in color bright red, white face and drooping horns. The most notable of this herd of prize winners are as follows:



At the head of the herd is the Earl of Shadeland 30th No. 30725, bred by Adams Earl, Lafayette, Ind. As a yearling and two-year-old he won 27 first prizes in Indiana, Illinois, Missouri, Iowa and Kansas, 6 of which were sweepstakes over all breeds, and there were also 6 Association specials. A cut of him appears as a frontispiece in the American Hereford Herd Book. He is now 9 years old, weight 2850 pounds. Since that time he has always won first prizes wherever shown, including himself and three of his daughters. They won first prize as a herd of four at the Columbian Exposition at Chicago, and of these three daughters, a yearling heifer, Lady Daylight, won sweepstakes over all breeds at the Columbian Exposition. One of his daughters, Lady Laurel, with Lady Daylight, is now traveling in a show herd East. Lady Laurel is pronounced by judges the best cow of any age or breed. Lord Fulton No. 61225, bull, three years old, one of his sons, took sweepstakes over all Herefords at Sacramento as a bull. Last year at Nevada State Fair he took first prize; weight, 2025 pounds.

Duke of Alamo, bull calf, by Earl of Shadeland, took sweepstakes over all breeds in beef class, and first prize as best Hereford calf, winning first prize in calf herd.

Charley Lane No. 64707, yearling bull, sire St. Louis, by Earl of Shadeland, took grand sweepstakes in yearling class over all beef breeds; headed herd winning first prize Herefords; second prize in class as a Hereford.

Major 10th No. 61570, two-year-old, weight 1470 lbs., bred by Gudgill and Simpson of Independence, Mo., two of the most noted Hereford breeders in America; won grand sweepstakes over all breeds as a two-year-old in beef breeds; first prize in Herefords as a two-year-old.

Roseland 4th No. 61592, yearling bull, bred by same firm, won first prize as a yearling in Herefords.

Miss Wilton No. 41463, sired by Beau Real, dam Lady Wilton, by Lord Wilton, six-year-old, a superb specimen of a Hereford cow; won sweepstakes over all beef breeds, and first prize in Hereford class, also first prize as best Hereford cow, and one of four headed by Earl of Shadeland winning sweepstakes over beef breeds, also one of four headed by Earl of Shadeland winning first prize in Hereford class.

Breeze of the Grove No. 26724, cow, ten-year-old, sired by The Grove 3d, one of the most noted bulls in the world; won second prize in Hereford class.

Saint Bess No. 63747, cow, two-year-old, sired by St. Louis, dam C. H. Elmendorf's World's Fair, two-year-old; took first prize in Hereford class as two-year-old; one of four headed by Earl of Shadeland winning sweepstakes.

Elfrida, yearling heifer, sired by Macbeth, bred by C. H. Elmendorf, won grand sweepstakes as yearling heifer over all beef breeds, also first prize as a yearling in Hereford class; one of the most perfect heifers in the herd.

Madam Twinrose, yearling, half sister to Elfrida, won second prize in Hereford class, and one of herd winning grand sweepstakes in beef breeds headed by Earl of Shadeland 30th.

Miss Pyramid, heifer calf, sire Lord Fulton, dam Miss McKinzie, won grand sweepstakes over all in beef breeds; won first prize in Hereford class and was one of four headed by Duke of Alamo that won first prize in Hereford class.

Queen of Alamo, heifer calf, by Earl of Shadeland 30th, won second prize in Hereford class and was one of the four

(Continued on page 207.)

PACIFIC RURAL PRESS.

Office, No. 220 Market St.; Elevator, No. 12 Front St., San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Any subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

Our latest forms go to press Wednesday evening.

Registered at S. F. Postoffice as second-class mail matter.

ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, September 26, 1896.

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The Week.

Weather and Crops.

We have had more unseasonable rains, and the fruit men are anxious lest the showers should continue and injure the ripening grapes and the drying fruit and raisins. The rains have, fortunately, not taken a very wide range as yet, or, at least, have been quite light or absent from the south half of the State. In some parts there has been rain enough to start the new grass, and it looks like an early pasturage year, with a large total rainfall for the season.

The following data for the week ending 5 A. M. Wednesday, Sept. 23, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	.14	.82	3.27	1 39	66	48
Red Bluff	.63	1.17	1.92	.59	84	54
Sacramento	.32	.52	1.28	.36	*	52
San Francisco	.50	.64	.78	.27	70	53
Fresno	.06	.26	.07	.24	86	50
San Luis Obispo	....	.24	T	*	90	46
Los Angeles	....	.07	T	.13	92	52
San Diego	....	.06	....	.14	80	54
Yuma	....	.50	.01	63	108	56

* Indicates no record.

Freight Rates on Grain Reduced.

The Valley Railway has cleared its way to Fresno and will enter the city at once. Grain rates by this route to Stockton are $1.25 and to Port Costa or San Francisco $2.65 per ton. The Southern Pacific has met this cut and announces the same rates as above. This company also reduces its rates from points on the west side of the San Joaquin wherever they have been greater than figures given above.

Major Alvord's Visit.

Major H. E. Alvord, chief of the dairy division of the Bureau of Animal Industry of the Department of Agriculture, arrived in Sacramento, according to appointment, about the middle of the last week of the State Fair, and worked untiringly and most acceptably in judging dairy cattle and dairy exhibits in the pavilion. It was very pleasant to all concerned to have so distinguished and painstaking an expert serving in these important specialties. After the State Fair Major Alvord came to San Francisco and complied with an invitation from the City Board of Health to confer with them concerning the tuberculosis problem which is now in hand. Personally, Major Alvord holds views on this subject which are somewhat adverse to the radical methods projected in this city, as we shall show in a later issue. On Tuesday Major Alvord visited the State University, and on Wednesday went to southern California by the coast route to get a glimpse of the southern coast dairy regions and attend a convention of dairymen in Los Angeles on Friday of this week. Next week he will return, and on Tuesday and Wednesday will attend the State Dairymen's Convention, which will be held in the Chamber of Commerce in this city. All dairymen should note this convention. It will be full of interest and importance.

Farmers' Institutes.

We understand that Mr. E. F. Adams of Wrights, who is organizing Farmers' Institutes in central and northern California under the auspices of the State University, is receiving many applications for institutes and that the preliminary conditions described in the RURAL of Sept. 12, are being rapidly complied with. It is desirable that all localities desiring institutes just after election should correspond with Mr. Adams at once and secure from him at once circulars of information as to how to proceed. Any individual who desires such a meeting in his vicinity need not wait to consult with others before writing to Mr. Adams for blanks and other information. The efforts for co-operation in the locality can be made after registering the application. The University is desirous to locate these meetings where the keenest interest is shown, and it is not well to delay in making the application for prompt response is one sign of interest.

Dried Fruit Freights to Foreign Points.

The Southern Pacific has arranged with Atlantic steamers to Europe that the rates for dried fruits from various California points will be as follows:

Per 100 Pounds to—	*In Boxes.*	*In Sacks.*
London, England	$1.10	$1.30
Liverpool, England	1.10	1.30
Glasgow, Scotland	1.15	1.35
Bordeaux, France	1.25	1.45
Havre, France	1.25	1.45
Humburg, Germany	1.15	1.35
Bremen, Germany	1.15	1.35
Antwerp, Belgium	1.10	1.30
Amsterdam, Holland	1.15	1.35
Rotterdam, Holland	1.15	1.35
Copenhagen, Denmark	1.25	1.45
Stockholm, Sweden	1.25	1.45

The rates are very little higher than the old rates to New York, which on shipments in boxes was $1 per 100 pounds and on shipments in sacks $1.20 per 100 pounds.

Pith of the Week's News.

THE sentence of Worden the train wrecker has again been postponed.

THE Czar of Russia is the guest of Queen Victoria at Balmoral Castle, Scotland.

ON Wednesday of this week Queen Victoria's reign became the longest in the history of England.

THE Democrats and Populists have reached a compromise in Kentucky and will work together in full accord.

WHILE at Washington City last Sunday Mr. Bryan attended church and was given the pew formerly occupied by President Lincoln.

JOSHUA LEVERING, the Prohibition candidate for President, is a gold man. He has declared his belief that McKinley will be elected.

JOHN BOYD THATCHER, Democratic candidate for Governor of New York is a gold man and the silver leaders are trying to force him off the ticket.

THE banks at Vancouver (B. C.) have established a discount rate of 5 per cent on American silver coin. The postoffice department refuses to take it at any rate.

FRIDAY the 18th was Ohio day at McKinley's home, and no less than 40,000 Republicans came to pay their respects to their candidate. Speeches were made by McKinley, Governor Bushnell, Senator Thurston and others.

REPORTS of the 21st state that a battle of considerable importance was fought on that day in the province of Havana between the Spaniards and the revolutionists. About 100 were killed on either side, among them several women and children.

BY reference to our market report, it will be seen that there is a very notable and substantial advance in the price of wheat. It comes too late, we fear, to be of much use to California farmers, since the greater number have already marketed their crops.

A FOOLHARDY Australian swam from Lime Point in Marin county to Fort Point, San Francisco, on Sunday last. The distance is only a mile and a quarter, but it is a very swift and dangerous piece of water and nobody has ever supposed that a swimmer could make his way through it.

VICE-PRESIDENT STEVENSON and Speaker Reed, custodians of the national capitol grounds, have given consent for the use of it for a great Bryan meeting early in October. Mr. Bryan will speak from the steps where Coxey met his Waterloo, and there will be a suspension of the rule about keeping off the grass.

THERE has been a good deal of talk during the past week about the dismemberment of Turkey, but the latest indications are that it will come to nothing. The English foreign office declares that England is not ready to precipitate an European war, which, rightly interpreted, means that England deems her interests in the autonomy of the Turkish empire too important to be put aside for the sake of protecting the Armenian Christians. In the meantime the killing of Armenians goes merrily on.

AT Leadville on Saturday last, striking workers in the mines resorted to lawless methods with the result of precipitating a deadly riot. The works of three mines were blown up with dynamite, occasioning great loss, and in an encounter with the men which followed, five were killed. The Colorado State troops were promptly called out, and at this writing peace has been restored. The military is still in charge and several companies will remain in Leadville indefinitely.

THE people of Alaska are ambitious for a territorial government and are anxious to have the privilege of sending a delegate to Congress, like Arizona, New Mexico and Oklahoma. The only objection is that they will hardly have a territorial government until they will want to be admitted into the Union, and it will probably be a great many years before they will have a sufficient population to fairly entitle them to that privilege. It is one of the weaknesses of our American system that it contains no provision for holding of country unfitted for Statehood. The territorial system is, at best, a mere temporary expedient, and the constant tendency is to make States where States never should be made.

Gleanings.

THE Eureka fair opened on the 21st with every prospect of success.

THERE will be no horse racing at the coming Santa Clara county fair.

WHEAT has been a poor crop in the Willamette valley (Oregon) this year.

THE Western Meat Packing Company of San Francisco is making heavy purchases of beef stock in Shasta county.

SAN DIEGO, September 21.—Grape cutting has commenced at Escondido. The price of raisins is so low that vineyardists are undecided whether to attempt a sale of the crop or not.

GOV. BUDD has appointed as members of the State Board of Horticulture A. Block of Santa Clara, vice himself, and Benjamin Maddux of Visalia, vice I. H. Thomas, term expired.

DAVISVILLE letter: "Raisin grapes are selling in carload lots at $10 per ton, growers preferring to sell at this price rather than cure them with the chance of losing all their labor."

C. P. BAILEY, of San Jose, was on hand as usual at the State Fair with his Angoras, and, in addition, exhibited ten Persian sheep. He sold 20 head of goats and a pair of the sheep on the fair grounds.

THERE is such a dearth of white labor at Wheatland that the hop growers have had to hire Chinese and Japanese, much to their disgust, as they have always prided themselves on employing only white help.

L. E. BRAINARD, the well known breeder of fine poultry, was among the most successful exhibitors at the State Fair. His buff Leghorns took eight premiums and buff Plymouth Rocks (a breed which he introduced with great success) carried off ten premiums.

SAN BENITO *Advance*: "The flax men are in the soup this year; $1.35 per cental is the best price obtainable in the market. One seller reports being "docked" 2000 pounds on a lot of 153 sacks, on account of alleged foulness, etc. The flax experiment has probably had its run."

MAJOR PETERS of Stockton is very hopeful with reference to the wheat situation "In November and December," he says, "the shippers will be looking for wheat to fill the ships which they are now chartering at a good advance in order to keep the price of wheat down. With all the shipping in hand they may hope to keep the price of grain down, but the time will come when they want something with which to fill their ships and my advice is to hold wheat."

BIGGS *Argus*: "Fred Hazelbusch has received returns from sugar beets sent to the factory which are very flattering to this section. From seed sent out by Claus Spreckels, the sugar magnate, Mr. Hazlebusch planted a patch on his place about four miles east of Biggs, on soil lying between the red land and the alluvial soil along the Feather river. From this patch he pulled twelve beets a few days ago averaging in weight about two pounds each. The test showed that these beets return 15.63 per cent pure sugar, 14 per cent being pronounced a good analysis."

PETALUMA *Argus*: "M. D. Hopkins visited Napa this week and says that on the ranch of his friend, Kirk Sackett, there is an enormous nest of ants which Mr. Sackett would not part with for a good deal. His chickens used to be troubled badly with lice, and when the ants first came to his place a lady school teacher, who was instructing her class in entomology, examined under a microscope some of the insects which were captured on their way from the hen houses to their homes in the ground. The discovery that they were carrying lice to their storehouses was made. The chickens are now almost rid of their old pests, and Mr. Sackett intends transplanting some of the ants to another chicken ranch."

GEORGE FROST of Riverside who has recently made a trip through the citrus belt is reported by the Los Angeles *Investor* as saying that the "oranges are getting well developed on the trees and the dropping of young oranges has about stopped. This dropping caused much damage earlier in the season. The entire orange crop will probably be about 60 per cent of a normal crop, which means that southern California's orange shipments this season will reach 6000 carloads, or about the same amount shipped last winter. Orange growers will probably receive excellent prices for their product on account of the poor crop of Florida oranges, which will make the California fruit more in demand than heretofore."

AT a meeting of the Riverside Horticultural Club last week Messrs. Reed and Koethen gave an account of a recent trip through a considerable portion of the citrus belt. Among other things they counted the orchards that could be classed as fine, good, indifferent and poor. The two better classes included almost one-half of the groves, and the good and poor groves were found near together in all locations showing that the difference is caused by the management and not by other conditions. E. L. Koethen exhibited a branch of a naval orange tree with leaves beautifully variegated with yellow and light green, a perfectly thrifty and healthy growth. Mr. Koethen has propagated his variety for three years past.

THE annual report of the secretary of the Colton Fruit Exchange shows that orange shipments for the last year were somewhat less than those of the last previous season, but the growers had received about $15,000 more than they had the previous season. There were 37,247 boxes of oranges shipped, the receipts for which were $65,500, or an average of over $1.75 per box for all varieties, grades and sizes. The following persons were elected directors: James Barnhill, A. S. Fox, G. L. Hutchinson, G. E. Slaughter, C. L. Heartwell, G. M. Hubbard, W. S. Bullis, C. B. Hamilton and Earl F. Van Luven. The board of directors organized by electing James Barnhill president, G. L. Hutchinson vice-president, Earl F. Van Luven secretary, and First National Bank of Colton treasurer.

STOCKTON *Mail*: "One of the important agricultural industries to which San Joaquin is paying some attention, and could pay more, is the raising of black-eye and pink beans. Peat land is excellent for the latter, and the sediment soil found in some of the reclaimed tracts is splendid land for the black-eye variety. Frank S. Boggs, who is looking after the extensive property of his father, Senator Boggs, which lies southwest of this city, estimates that there are 400 acres of beans there, nearly all of the black-eye variety. The yield is from 1000 to 1500 pounds to the acre. The great market for this variety, as well as for the pink bean, is in the border States and those along the lower course of the Mississippi river. New Orleans alone takes about 300 tons. Next to San Joaquin county in the production of the black eye bean comes Ventura, which this year will have between 150 and 175 tons. The prices are from $1.30 to $1.40 a cental. Last year they ran from $1.70 to $1.90."

VENTURA letter, 15th inst.: "Beet sugar bids fair to divide honors in the near future with the bean as a profit-producing crop in this county. The recent visit of Claus Spreckels has settled the point in dispute: 'Are Ventura climatic and soil conditions favorable for the profitable cultivation of the sugar beet?' Claus Spreckels is so favorably impressed with the outlook that he has stated positively that he will on or before January 1, 1897, begin the construction of a beet sugar factory capable of turning out 3000 tons per day. Mr. Spreckels, in company with M. L. Wolff, A. L. Maulhardt and Superin-

tendent Waters of Watsonville, made a close study of the beet-sugar beet now planted for experiment, and expressed himself as more than satisfied that there was profit in sight for the farmer and manufacturer. He visited the lands of Adolph Camarillo and other large and small holdings in that vicinity, and was so impressed with what he saw that he predicted a great future for sugar-beet culture in the territory visited, and, in fact, for all of that section of the county from the Simi valley to the ocean. The samples tested show a heavier percentage of sugar than from any other section of the State."

From an Independent Standpoint.

We do not recall a presidential campaign in which the candidates have personally taken so active a part. All traditional ideas of reserve have been thrown to the winds by both Bryan and McKinley and each is doing his own "speiling" with astonishing persistence and energy. Within the past week (we write on Wednesday) Bryan has spoken in Indiana, Kentucky, Tennessee, Georgia, North Carolina, Virginia and Pennsylvania, and in every instance to vast audiences. The desire to see and hear him appears to be universal, and not even Mr. Blaine at the time of his highest fame ever attracted more numerous nor more demonstrative audiences. Under the strain of such repeated efforts and under the necessity of holding to a single theme, the quality of Mr. Bryan's oratory is perceptably falling off. To be required to speak from one to five times a day for over a month on the same subject is a very severe test; and if Bryan is found now and again to be repeating himself, and if he occasionally falls into trivialities it ought not to be surprising. There is, perhaps, not another man in the country who could have done what he has done during the past six weeks, and, on the whole, have sustained himself so well. McKinley's task has been much easier. He, too, is constantly talking, but his platform is the front porch of his own house; his library, with its thousand aids of suggestion and its privacy, is at hand and there is not upon him the strain of constant travel with its inevitable disturbances, both of thought and of sleep. Then, too, McKinley may select a new topic for each day and so have something fresh to say, while Bryan, by the conditions of his campaign, is limited to a single subject, upon which all he has to say has been already said and fully reported to the public.

A very specious attempt has been made to contrast the methods of the two candidates to the disadvantage of Bryan, but this is very unfair. The attitude of McKinley, sitting quietly in his own house, waiting the coming of delegations from everywhere representing the various interests of American life, is indeed one of great dignity, and, upon the surface, it wears a better look than Bryan's pilgrimage through the country. But to those who have any knowledge of the inside of the situation, the advantage in contrast does McKinley no particular credit. The plain truth is that McKinley's audiences are organized and brought to him by the energy and largely at the expense of his managers. It can be done, because there is plenty of money in the Republican campaign purse, and there need be no stint where there is a point to be made. With Bryan it is a very different matter because his resources are small. Those who usually supply Democratic campaigns are not in sympathy with the Chicago nominee; and there is, of course, little cash to be got from the Populists. About the only large source of supply for campaign expenses is the silver mining interest, and that does not yield enough to organize a campaign on the basis of profound personal dignity. Clearly, Bryan is not situated to practice the McKinley method; and if he is to come in contact with the people he must go and see them. And in our judgment he is not, under the circumstances, to be seriously criticized for doing it.

Nothing could exceed the confusion into which the local politics of San Francisco have fallen. Within the past week no less than eight political conventions have been sitting, each assuming to represent a definite party interest and each, in fact, representing nobody but those personally taking part in them. The so-called Democratic convention has come nearer being a legitimately representative body than any other. Neither the side of the spoilsman nor that of the respectable element had a sure majority, and the result was a virtual compromise. The outcome was the nomination of Mr. James Phelan for Mayor, a most excellent choice. Of some of the other nominations the same cannot be said. The Republican situation has been very much mixed, there being two distinct conventions in session—one under the guidance of the Spear faction and the other of the Spreckels faction. The former has rather outgeneraled the latter by naming candidates for the main city offices so far above criticism that they must inevitably be accepted. The nomination of most note is that of Hon. Horace Davis for Mayor. Up to the time of our writing the factions have not succeeded in getting together, but it is only a matter of time when they will.

It now looks as if San Francisco were sure of a good Mayor in any event. That of itself will be a great improvement, though under the present municipal organization the Mayor has but little direct authority. The fire and police departments are in the hands of special commissions and even the city park is managed by commissioners appointed by the Governor. The school department, too, is independent of the Mayor's authority. However, if the new charter shall be adopted, all those conditions will be changed and the office of Mayor will be one of large power and dignity. It is this prospect which induces men like Messrs. Phelan and Davis to accept their party nominations.

The example of Mr. Theodore Roosevelt in New York and of the late "Billy" Russell in Massachusetts has had the effect in all parts of the country of intruding shoals of gilded youth into the field of political affairs. This new ambition speaks well for the youngsters, in a way, since it betokens some seriousness of mind and a taste for other than frivolous things; but we fail to see in it any special hope for the betterment of our public life. The rich man in politics, be he young or old, is almost invariably a corrupting influence, for his power usually rests upon his wealth. Even if he does not go into the worst practices of mercenary politics, he puts political affairs in one way or another on a money basis and thus makes a mischief very much at variance with the ideal standards of American politics. The man rich from his cradle must, from the very nature of things, be without the knowledge which enables one to understand the sensibilities and motives of the generality of men. A condition from which the element of necessity has been eliminated is—in America at least—wholly artificial; and he who has known no other is likely to be but poorly qualified to judge the force of circumstances, to estimate men fairly or to bear the weight of high responsibilities. The writer was recently told by a very skillful financier that, from the banking point of view, the least desirable accounts were those of business houses in which the administration had recently passed by inheritance to younger men. Almost invariably in such cases, he said, the boys are tempted into departures from the traditions of the business, and seven times out of ten the consequence is embarrassment or disaster. There is no qualification for business or for political life like experience, and there is no royal road to its attainment. It is not to be had by inheritance, by gift of nature nor by purchase. Like strength of bone and muscle, it must be got by effort, and each man must earn it for himself or do without it. It is a growth, a culture—in the highest sense it is the very substance of culture. This is, perhaps, not the accepted definition of culture, but it will stand the test of analysis. The more we see of life the more we are impressed with the notion that culture, the real culture which marks a man's personal development and rules his conduct, is nothing more or less than experience—accepted and well assimilated.

Messrs. Roosevelt and Russell came very early into large political relationships. But in neither case was there an effort to attain distinction by the use of money or by a spectacular leap into the arena of affairs. Roosevelt began his career in the New York Legislature and won the respect of the public for ability and for moral courage displayed under circumstances which promised nothing in the way of reward. Russell made his beginning in the character of a town councilman, without any thought of going into politics in a large way. In both these cases the start was not in the power of wealth, but in service—public service—and the promotions which followed came in natural order and without reference to the private wealth or accomplishments of the men. This is the usual course of personal growth in political life—that is, in the only kind of political life worth considering—and it is a course rather more open to the man without wealth than to the man with it. The young man who goes into politics hoping, with the aid of money, to achieve distinction usually lasts just as long as he is willing to "put up" liberally. He sometimes appears to "go up like a rocket," but in the end usually he "comes down like a stick."

People who live in well-ordered countries, where humane ideas make the rule of conduct, have no standards by which to measure the distress which Cuba is now suffering. The situation not at all resembles that produced in the South by our late civil war, for in our case the brutalities of warfare were limited to those actively and confessedly engaged in it. In Cuba no condition of age or sex is an exemption. The policy of one side is as infamous as that of the other, and the methods by which they are carried out are barbarous to the last degree. The Spanish commander has become convinced that the only way to down the revolutionists is to make it impossible for them to find subsistence, and to this end he is seeking to destroy every productive interest and every productive feature of the country. Over whatever region he contrives to extend his lines he spreads complete and absolute devastation. Supplies of every kind are confiscated, houses are burned down, fields are laid waste and the people compelled to demonstrate their adherence to the Spanish cause or made to suffer an ignominious and cruel restraint. On the Patriot side measures are none the less severe, for it is assumed that all who are not for the revolution are against it, and non-combatants are treated as enemies captured in war. These policies, as they are carried into effect by a brutal and unrestrained soldiery, are cruel beyond words. Every possible outrage is included in the list of daily transactions as they are reported by confidential letters. It is a story which recalls the horrors of the Middle Ages, and it is impossible to escape the suggestion that a people among whom these acts are permissible, are far below the standards of intelligence, humanity and self-control requisite to a successful state of self-government.

The more the situation in Cuba is studied, even from the standpoint of sympathy with the patriotic cause, the less reason there seems to be to hope that anything like a stable, humane condition of public order could be maintained by the Cuban people. Even should they be able to win their emancipation, the inevitable consequence of independence will be a series of reasonless und cruel revolutions in which one armed tyrant after another will dominate the island and it will become a necessity of humanity for the American Government, sooner or later, to end the distractions of the country, by extending its power over it. From any point of view a future close connection of Cuba with the United States appears to be manifest destiny. And yet it may well be doubted if it would be a fortunate departure from our traditional policy of minding our own business and limiting our jurisdiction to the American continent. If indeed, Cuba could be sunk a few fathoms under the sea for the space of twenty minutes and then given to us in the form of a depopulated wilderness, it would be quite another thing, for there is no region of greater native resources under the sun. If it could be colonized by a thoroughly civilized population used to systematic industry, to government by law and to respect for authority, it would easily become a seat of unsurpassed prosperity. But taken with its mongrel population, in whose veins there flows the mixed bloods of half a dozen inferior races, a population undisciplined by industry, wanting in intelligence, foreign in language and in religion and not yet beyond the military and predatory stage of civilization—to take Cuba in this condition (and there is no other way to take it) would be to fasten a social ulcer to our body politic and to weaken for all time the social health of the Republic.

Weather and Crops.

The following synopsis of the weather and crop conditions during the week ending Monday, September 21st, is issued by the State Agricultural Society n co-operation with the U. S. Climate and Crop Service, James A. Barwick, section director:

The total precipitation was 1.30 inches at Eureka; .10 of an inch at Fresno; none at Los Angeles or San Diego; .60 of an inch at Red Bluff; .30 of an inch at Sacramento and .10 of an inch at San Francisco. As compared with the normal precipitation there was an an excess shown of 1.21 inches at Eureka; .03 of an inch at Fresno; .46 of an inch at Red Bluff; .23 of an inch at Sacramento and .03 of an inch at San Francisco.

The rain of the latter part of the week has done but slight damage to drying fruits or to raisin curing. Some grain and hay has been left out in the field which will be damaged, but then there are always some ranches behind hand at all seasons of the year. The almonds in the Yolo orchards were injured because the greater portion of them were still hanging on the trees. Highest and lowest temperatures were 99° at Chino, San Bernardino county and 28° in Modoc county and 36° at Yreka, Siskiyou county.

SOLANO COUNTY (Vacaville).—Dried apricots as a general rule in this valley this year are of an exceptionally fine color. The greater portion of the crop ripened during a dry, hot spell, and therefore dried very rapidly on the trays without any moisture interfering with the process. (Isleton)—Bean threshing has commenced and the prospect of a large yield is good.

Napa, Sonoma and Santa Clara Valleys.

NAPA COUNTY (Napa).—Fruit crop all gathered and the yield small. Grape crop below the average; picking season will soon be in full blast. (Calistoga)—The grape crop is ripening nicely and some growers in this valley will commence picking this week.

SONOMA COUNTY (Healdsburg).—Another week will see the end of the hop picking season. Prune drying is nearly finished. The weather has been too cool to suit the orchardists, but owing to the very light crop they have been enabled to get along. It has been years since so few prunes were produced in the Russian river valley. (Sonoma)—No damage is yet reported to the grape crop by the rains. (Santa Rosa)—It is not believed that the rain has done any great amount of damage to the grapes or other crops. (Cloverdale)—Grape picking and wine making in full blast. Oranges looking well.

ALAMEDA COUNTY (Irvington).—The grape yield will be about one-third of a crop. The prune crop is large in quantity but the prunes are below the average in size. Sugar beet yield is good and the increase of acreage looks encouraging. (Livermore)—Grape picking is going on in nearly every vineyard in the valley.

SANTA CLARA COUNTY (Santa Clara).—Prune gathering is rapidly nearing its close. Most of the orchards have been picked clean and the fruit delivered. The next week or ten days will see the final windup of the season.

SAN BENITO COUNTY (Hollister).—About all the hay has been baled. The crop was large and of good quality.

San Joaquin Valley.

SAN JOAQUIN COUNTY (Acampo).—Some of our most prominent grape shippers have decided that the grapes are injured by rain to such an extent that they will sell to the winery. (Lodi)—The dampness has stopped the packing and shipping of grapes and hastened the removal of hay to cover, and also grain that was exposed in the fields. The melon season is about over and has not been a profitable one.

MERCED COUNTY (Union).—Early peaches and prunes are about all disposed of and the late peaches are well under way. The crop generally has been large and the quality excellent.

FRESNO COUNTY (Reedley).—Raisin making is in full swing, but the weather is rather cool which causes grapes to dry very slowly.

TULARE COUNTY (Tulare).—The first crop of raisins will reach the sweat box without rain and the first crop is all that is worth while to turn into raisins. (Lindsay)—Orchard men are closing up their work for the season.

KERN COUNTY (Bakersfield).—Owing to the present cool weather prunes are slowly ripening and raisins are equally as slow in drying.

Southern California.

VENTURA COUNTY (Santa Paula).—Bean harvest will probably finish next week. (Ventura).—Bean threshing is showing the growers that the estimate of their crop was four times larger than they find it. Apples, grapes, lemons, pears and quinces coming in freely. The prune crop is a very light one and is about over.

SAN BERNARDINO COUNTY (Chino).—Beets continue to go in to the factory at a lively rate. The beets have been showing a very good sugar percentage this week although not quite as good an average as was had earlier in the season.

RIVERSIDE COUNTY (Riverside).—No market at all for green pears so they are drying them, and the crop is a fine one both in quality and quantity, and entirely free from codling moth.

SAN DIEGO COUNTY (Poway).—Grape picking is in full blast. (San Marcos).—Grape crop is a light one.

Coast Counties.

HUMBOLDT COUNTY (Eureka).—The heavy rainstorm of the 14th and 15th was of immense benefit to the dairying interests.

SAN LUIS OBISPO COUNTY (San Luis Obispo).—Beans are ripening fast but we require two weeks of fine weather to make the crops any way secure. Grapes and figs which looked doubtful two weeks ago are now doing well.

State Horticultural Society.

President Lelong has called a special meeting of the State Horticultural Society to be held on Friday, October 2nd, at 2 o'clock, at the rooms of the State Board of Trade on Post street, near Montgomery. The regular monthly meetings have been suspended for several months because members seemed to be too much engrossed with other affairs to attend them, and the special meeting is called to consult concerning the resumption of meetings and other work of the society. It is hoped that there will be a good attendance, for, even if it should be thought not advisable to resume meetings before election, it is desirable that they should be planned for at once.

"Nitragin."

TO THE EDITOR:—Prof. Hilgard has told us in the RURAL PRESS and by bulletins what is the value of green-manuring. He has also told us of the singular fact that it is from nodules on the roots of the plants grown for green-manuring that the value is really derived, which nodules, again, are due to specific bacteria. Here the learned and helpful professor has stopped. Meanwhile a most extraordinary tale has come from Germany, the country of deep and patient research, where men are careful of exaggerration, to-wit, that Prof. Nobbe has segregated the bacteria and invented a method whereby he obtains pure cultures of them; that he has made an agreement with a first-class German chemical manufactory whereby the cultures can be had put up in semi-liquid form and in green bottles.

Prof. Nobbe offers his cultures under the name of "nitragin," as it is a producer of nitrogent, or extractor of nitrogen from the air, which is fuller of nitrogen than anything else—only the trick was to get it out of the air.

To use the "nitragin" you wet the seeds of legumes or clovers. With it, then, you dry your seeds; then sow. Or, you moisten light earth with it and scatter the earth on the field, endeavoring to sink it to the depth of 3 inches.

Soils are never wholly destitute of the nitrogen-producing bacteria, but some soils have few, and these are infertile. Some have plenty and they are fertile.

There is no need now of Chili salts and other nitrogenous manures, dear at their best. About $1.50 in "nitragin" is the estimate of cost for an acre of field or orchard or vineyard. I believe they sell the Nobbe cultures as a merchantable article in London. Certainly they do on the continent; but where, exactly, I do not know.

The RURAL PRESS has done a great deal of good, but it will do much more if it will find out for experimenters where "nitragin" is to be bought freely. According to the statement of the Agricultural Society of London it is the most important agricultural discovery of modern times. Think of $1.50 of nitragin to the acre, instead of $30 to $35 of nitrates! Ah, you shake your head and cry, "Impossible!" Well, long heads and hard heads in Europe don't.

Santa Cruz. JOHN A. STEWART.

COMMENTS BY PROF. HILGARD.

Commenting on the above, I state that, while Prof. Nobbe has made most important researches in connection with the subject of the nitrogen-absorbing bacteria of legumes, I have seen no mention, in the German papers and journals, of his having engaged in the sale of "pure cultures," and greatly doubt that such is the case. The very name "nitragin" savors more of the sensational advertising of a nostrum than of scientific methods—the more as *pure* cultures are, in the present case, wholly unnecessary.

The essential truth in the matter is that, with the exception of sour soils and alkali lands, the great majority of soils, especially in the arid region, contain enough of the needful organisms for all practical purposes. The necessity for "inoculation" with the specific bacteria arises (aside from the cases above mentioned) mainly when one kind of legume is to follow another *of widely different character* on the same soil. Nobbe has shown that, while in ordinary cultivated or virgin soils, the bacteria exist in a "neutral" condition, in which they will soon adapt themselves to *any* legume that may be planted, that very adaptation, once effected, will render them unadapted to certain others for the time being. Thus, inoculation is useless when clover or alfalfa follow peas or vetches; but when beans, esparcet or lupins are to be grown *immediately* following either of the above, the crop will fail unless either the seed or the soil is inoculated with the appropriate bacterium. But the latter may be obtained from any field or garden that has just borne the same crops—whether in the form of the earth itself, about 800 pounds per acre (to be harrowed in), or by infecting the seeds before sowing by means of water stirred with the soil, substantially as prescribed for the "nitragin."

In agricultural practice it has long been a maxim that grain or some other non-leguminous crop should intervene between certain cultivated legumes. It seems to take about a year to cause the "specialized" bacteria, when left to themselves, to resume their neutral condition, from which, as stated, they will soon adapt themselves to any of the legumes. Nevertheless, there seems to be distinct advantage (though, perhaps, not always a paying one,) in infecting the seedlings as early as possible, in order to enable them to form the nitrogen-absorbing excrescences on their roots.

Of course, it will not do to compare the cost of inoculation, whether with earth or "nitragin," with the cost of Chile saltpeter, when *green manuring* of orchards or vineyards is the object of the crop, in which case the cost of growing the latter will have to be added to that of inoculation. It is quite possible that, under special conditions, the purchase of reliable specific virus may be preferred by some; but it is certain that the intelligent farmer will usually not indulge in the purchase of pure cultures when he can procure what, for practical purposes, is the same material from his kitchen garden or field.

E. W. HILGARD.

University Experiment Station, Berkeley.

Sugar Beets, Hops and the Olive.

Many readers of the RURAL will be interested in the observations of Capt. Grosse on a recent trip through Alameda and Santa Clara counties, as reported in the Santa Rosa *Democrat*:

In Santa Clara county there is about a three-quarter grape crop. The prices talked of were from $15 to $18 a ton. The olive crop will be very light. It is not an olive year. There has been a considerable extension of olive plantations this year in Santa Clara.

In Alameda county the crop of grapes is good. Prices quoted there for wine grapes were $15, $18 and $20 per ton. There was an oversupply of Bartlett pears on the market, and low prices. In Contra Costa, by special invitation, Capt. Grosse visited the hop yard of the Contra Costa Hop Company, on the ranch of Lilienthal & Co., at Pleasanton, El Rancho del Valli. It is said to be the largest single hop farm in the world. There are 350 acres in hops and fourteen drying houses. Owing to the condition of the market they are picking only 150 acres this season, and had on Monday but 380 hop pickers in the field—men, women and children, mostly white.

Mr. Lilienthal is now, however, satisfied that there is no future in the hop business and intends to devote the greater part of his farm, consisting of 1800 acres, to the culture of sugar beets, which he regards as one of the coming industries in this State. He has in cultivation 500 acres. He ships the beets to the Alvarado factory, about eighteen miles distant. The freight paid is 75 cents a ton. The yield is from 15 to 20 tons an acre, some acres yielding 28 tons, leaving a handsome profit over and above cost of culture and interest on investment. Mr. Lilienthal will largely increase his beet plant this year.

He strongly advised Capt. Grosse to change from hop to beet culture. He thinks the climate of Sonoma is well suited for beet culture, and if sufficient land is promised for the people a factory would certainly be built at or near Santa Rosa or any other point nearest to the greatest possible supply of beets. He thinks any land suited to hops will grow beets and that it will insure a regular annual income, and not be a speculation and lottery, as hop culture has proven to be in this State. It is believed that investigations are now making of the adaptability of Sonoma county for sugar beet culture, with a view of establishing a factory. Would it not be well for some of our enterprising citizens to look into this matter?

With olives on the hills and sugar beets in the valleys, the depreciation in land values would cease. Land is rated by the interest it pays on cost. No matter how rich it may be, it goes for nothing if it does not annually earn interest on its valuation. Interest is the only measure of value.

Sugar beet culture will solve the problem for the bottom lands of Sonoma county and olives for the uplands, both sugar and oil being products of climate rather than of soil. Sonoma county having the richest soil on its hills and in its valleys, and its climate being suitable, the success of beet culture is assured. Beets grown here have already been tested and found rich in the saccharine principle.

Capt. Grosse returns feeling satisfied from what he heard and saw that both our soil and climate are adapted to sugar beet culture, and that with the general introduction of olive and beet culture a new era of prosperity would begin in Sonoma county.

The Foreign Fresh Fruit Trade Reviewed.

The New York *Sun* thus writes of the California shipments across the Atlantic during the 1896 season:

The shipment of California fruits to London this year began with the middle of July, when a consignment of 4000 boxes of pears and plums from Sacramento were transported over the sea in the American line steamship St. Louis. English buyers had been rendered cautious by their experiences in other years, and the prices obtained in the London market were unsatisfactory to the sellers. The complaint was made that some of the boxes were damaged, and both pears and plums were too small to command good prices.

The average selling price of Bartletts was from $1.32 to $1.92 per box of fifty pounds, and plums were sold for $1.80 per crate. Making allowance for freight, insurance and cost of handling, the prices realized were lower than those then prevalent in New York. At a sale in London on the last day of July, pears brought $1.38 to $1.80, while plums brought $2.28, an advance upon the price at the previous sale.

Two weeks later a consignment of 10,600 half-cases from California, consisting of pears, peaches and plums, arrived in London. They were of superior size and quality and in fine condition. Nevertheless, the selling price was very low. Peaches ranged from 80 cents to $1.56; plums from 72 cents to $1.92; William pears from 72 to 84 cents, and Hardys were disposed of at $1.44. Large lots were taken by German and Russian buyers. It was said the prices were depressed on account of the abundance of French and English fruits in London.

August 25th, 5000 half-cases arrived in London from California. The prices were low though the fruit was in good condition. Peaches, 72 cents to $1.24; pears, 48 to 84 cents; plums, 48 cents to $2.04 cents for a very superior quality. There were again great quantities of French and English fruits in the London market.

In the first week of the present month of September a consignment of 5000 half-cases from California were put up at auction in London. The prices realized were better than at the previous week's sale, owing to the scarcity of fruit in the market. Peaches brought from $1.08 to $1.32; pears, which were small and hard, brought only 78 cents. The prices obtained at several sales since the first consignment was delivered have certainly been discouraging to the California fruit raisers, as also to the exporters.

Last year's prices have been poor and this year's have been poorer. Much more money has been lost than made in the exportation of California fruits to London. A number of determined capitalists, however, are engaged in the trade and some of them expect better times in it hereafter. They are deserving of success.

It is doubtful whether California lemons could be profitably exported to England, for Sicily lemons, which are generally produced in abundance, hold the market there. At an auction sale of them in London a short time ago, 27,000 boxes were disposed of at prices that were lower than the ordinary. But California ought, at least, to relieve the United States from dependence upon foreign countries for its lemons.

HORTICULTURE.

Small Fruits in Southern California.

By BYRON O. CLARK. Pasadena, Cal., at Southern California Farmers' Institutes.

The few items I may be able to give you on the subject of small fruits, which has been assigned me, will not be so much in the line of a general treatise of the subject as to suggest new lines of thought, and encourage those who are engaged in the business to improved methods, and to give those intending to commence this line of culture a few gleanings from experience that may aid in successful practice.

Location for Berries.—In selecting a site for berry growing, good soil with plenty of water, favorable climatic conditions and market facilities are of the utmost importance, as without these conditions any amount of hard labor and money expended will not enable one to offset the disadvantages of an unfavorable location. After making sure of your water supply, or certainty of being able to secure an abundance, the selection of proper soil is of next importance. This should be a loam or sediment deposit, for the greatest ease of culture and the successful growing of most varieties.

Blackberries will do well on a wide range of soils, from the sandy loam to quite stiff clay loams, and even on adobe, but on account of ease of cultivation, I would perfer not to have too heavy a soil. Of varieties I have grown, I prefer Crandall's Early to Lawton and Kittatinny, in fact would not plant either of the two latter kinds. The Crandall commences to ripen ten days to two weeks sooner and supplies a good late crop, with considerable fruit ripening continuously between the two main crops. This variety should be well summer pruned, and cut back very little in dormant season, only removing the old wood and shortening in any long branches that escaped heading in during the summer pruning. Water should be applied only as often as necessary to fully develop the fruit, and between the rows, not directly on the row, so the ground may be well cultivated after each irrigation to prevent the soil from becoming baked and hard, obviating the necessity of as frequent irrigations, thus getting sweeter and better flavored fruit and such as will keep in transportation and on the market, for it is a well known fact that excessively irrigated fruit is soft and lacking in flavor and does not hold up well.

I think most growers make a mistake in planting as closely as they do. I would never plant the rows nearer than ten feet apart, with the plants five feet apart in the row, when I wish to cultivate in solid rows, but if I had plenty of land I should plant eight feet by eight feet (8x8) or ten feet by ten feet (10x10) keeping them in hills, cultivating both ways, then the plants can be supported by putting a piece of wire around each hill. As the branches radiate and pass equally in all directions they are self-supporting and enable the picking of the fruit to be done more expeditiously.

Raspberries require about the same general treatment as blackberries, but thrive best on a good medium heavy or sediment soil. They do not do as well on a soil that is too open and porous, like some of our lighter sandy soils. The Cuthbert is the best red variety so far as tested. The London is spoken of very highly by eastern berrymen, and some think it a better berry than Cuthbert, more particularly on account of being of finer texture and a better shipper; but of all the older varieties of reds Cuthbert is the standard of excellence. Golden Queen, a sprout from Cuthbert, is like its parent except in color which is a light yellow, far from what its name implies, and is well liked by many growers. The Purple Caps, of which the Columbia and New Rochelle are leading varieties, are hybrids between the black varieties and the reds. The plants are strong growers, like the reds, but do not have the objectionable habit of suckering from the roots like them. They propagate from layering the tips the same a Black Caps; they are good berries and will be more extensively planted when more generally known. The Black Cap varieties do not thrive extra well in southern California and what little experience I have had with them has not been encouraging. I understand a variety grown about Alhambra does well, but I have been unable to learn the proper name of it.

The Logan Berry, a hybrid between the Aughinbaugh blackberry and the Red Antwerp raspberry, is a new claimant for attention and is very promising. It is of fine size and flavor and I believe when sufficiently grown to get place in the market will prove profitable. I have not had personal experience as to its productiveness, but do not think there will be any question on that score. I would advise all to test it, for if it does well with you it will be a money maker.

Gooseberries and Currants do not do sufficiently well in southern California, except in the mountain districts, to prove generally profitable or worth growing. I have heard of a few being grown, but never have seen southern California fruit in our markets, yet I have faith that the future will develop varieties suited to our climate or possibly some of the new varieties not tested here yet may prove profitable.

The Strawberry in southern California, as in all other berry growing sections, is the queen of small fruits, and with proper selections of varieties suited to your soil and locality there is no good reason for anyone with land and water not having at least enough of this luscious fruit for family use, and, during the height of the season, an occasional crate to take to the grocer in exchange for household supplies; while those who grow it as a market crop will find it will give more certain return for labor expended than the blackberry, besides not being so disagreeable to work among. Digressing I will say it is not too much to anticipate the production of a good blackberry without thorns, for the thorns have been eliminated from many of our fruit-bearing trees, notably in many varieties of the citrus family. I am aware there are so-called thornless blackberries, but they are more so in name than in fact, and of only ordinary quality of fruit; however let the effort in this direction continue and some one will be rewarded with success.

The Best Soil for the Strawberry, with few exceptions as to varieties, is a good, strong clay loam with three or four inches of sandy loam or sediment on top. We however seldom find these extra conditions except where there has been a deposit made by floods, and we must accept our soil as we find it, selecting that which is the nearest approach to the ideal, amd such varieties of berries as are best suited to it as shown by practical demonstration.

Varieties.—The Monarch of the West seems to adapt itself to various soils and locations with a greater degree of success than any I am familiar with. It does well from the canyons and valleys of the San Bernardino mountains down to the fruitful plains of Gardena, within six miles of the ocean, which is as far as my observations have followed it, but I have no doubt the same could be said of it down to tide water. While it does well over this wide stretch of country with varying soil and climate, the finest fruit I have seen is at Gardena, where it seems to color up better than farther inland, whether on account of the greater percentage of potash in the soil or climatic conditions, but I think for the former reason, inasmuch as the coast climate is cooler and on general principles would not produce so highly colored fruit as the warmer climate. Aside from the one defect of color, I call it a satisfactory berry to grow anywhere in southern California.

Another berry showing a great adaptability to climatic conditions is the Arizona, which does well over this same wide range of territory if given proper soils, but does not adapt itself to so wide a range of soils, being decidedly partial to a loose, warm soil, and doing its best only on such. I have seen no finer fruit of this variety anywhere than at Pasadena on the warm granite and loam soils of that vicinity. This berry will stand more drouth than any strawberry I am acquainted with; it will live where others will die for want of moisture. It is a late berry, and bears a good late summer crop when others are resting, and at this date, Aug. 15th, is yielding a good crop of fine large berries at Pasadena and Gardena and, I suppose, in other localities where conditions are favorable. With it and Monarch one can have strawberries as near the year around as is possible. The Belmont, another choice berry of high color and fine flavor, has been a leader in the Pasadena market, no other berry but the Arizona bringing so high a price the season through. It is very sensitive as to soil and climatic conditions and is rather "fickle" to recommend unqualifiedly, but if suited to your conditions will give entire satisfaction, especially on account of its fine red color, and when not irrigated excessively, of fine flavor; but, like many other of the finer flavored varieties, too frequent irrigation when the fruit is ripening ruins it. If you want high flavored berries of any kind irrigate between the rows and not along the plants, lightly, then cultivate well, applying water freely and saturating your ground only when the main crop of blossoms and fruit are setting, calculating on filling the soil well with water so as to need but light waterings while the fruit is ripening. If this method were adopted by the growers instead of the "once-a-week" soaking method, of those who go by the calender, there would be less complaint about poor flavored berries in our markets.

The Clairac Mammoth Prune.

TO THE EDITOR:—I send by this mail an average-sized prune of the variety named Clairac Mammoth. You will observe that it is about as sweet as the common French, but much larger. There is no sourness or bitterness in the skin while green or cooked or dried. This cannot be said of Robe de Sergent and many other prunes. The skin is not so thick as that of the Silver Prune, and it is possible that dipping or pricking may be unnecessary in drying, at least in the interior counties. R. W. BELL.

Santa Rosa.

The fruit is large and sweet—no so large as some of the large red plums which have recently been named prunes, but very much superior to them in sugar contents. It is not, however, as sweet as the French prune, and yet it carries sugar enough to give very good dried fruit, which many may prefer to the French. From what we can judge from a small sample, we are of the opinion that it will make a large, dark-colored and thin-skinned prune of marked superiority.

Deciduous Fruits.

By G. M. HAWLEY, at the Farmers' Institute in El Cajon.

It is an old saying that "There is always room at the top." In the present depressed condition of horticultural affairs, there certainly is no room for profit in the lower and middle rounds of our occupation. Visiting commission men have informed me that at no time during the past year was there a surplus of fancy dried fruits. A car of that grade seldom met another in competition in the same market; while of the standard and choice grades they were constantly overstocked. This rule seems to hold good nearly every year. Then the question for us to consider is how to raise only the better grades.

Factors of Fine Fruit.—I should say by irrigation, fertilization, cultivation and proper thinning. You can hardly expect our fruit to attain the size for fancy grades on our dry lands, if left without water for the several months it takes to mature them. The time will surely come when your lands will not respond to your efforts without the aid of fertilizers. To secure the best results from irrigation and fertilization, they should be followed by thorough cultivation.

Thinning.—In regard to thinning, we have been taught that the ripening of the seed produced the greatest exhaustion on the tree and soil. In the report of our Agricultural College for the year of 1891 and 1892, the analyses of the pits and flesh of peaches and apricots show from six to eight times the per cent of nitrogen in the pits to that in the flesh. In the ash of the apricot there is 43 per cent of phosphoric acid in the pit and 11 per cent in the flesh. From these experiments and from experience I believe that in the formation of the pits in stone fruits the soil is robbed of its most valuable elements. If, therefore, we can raise just as many pounds, and get fancy fruit with fewer pits, we are saving the fertility of our soil, the vitality of our tree, and raising a product that commands the best price.

In the Case of Peaches.—To illustrate, suppose we have a peach tree that yields twenty boxes of peaches. If the fruit is of a size that it takes six to make a layer across the box, it will take 108 to fill the box, or 2160 for the twenty boxes. Now, if the peaches had been a size to make five to a layer, the box would hold 80, or 1600 to the twenty boxes, and had there been but four to the layer, it would hold 48, or 950 to the twenty boxes.

In the first case the tree would have matured 560 more pits than in the second, and 1200 more than in the third. The first size would fill but a 20-pound box, or 400 pounds to the tree; the second a 25-pound box, or 500 pounds to the tree, and the third a 30-pound box, or 600 pounds to the tree.

Globes vary as the cubes of their radi. If we have a peach whose radius is represented by two, and another by four, they are to each other as 8 is to 64, or one is eight times as large as the other.

In picking and packing there is much less work in boxing the larger grades, and in drying there is still less work. By actual experience, Mr. Culbertson found it cost $15 more to prepare a ton of small peaches than of large ones for market, and in the market the large ones brought $45 per ton more than the smaller ones, leaving a net profit of $55 in favor of the fancy grades.

The Foster Peach.—In 1894 I had 250 trees of Foster peaches, heavily loaded, and the same number of late Crawford, lightly loaded. From appearance, one would have supposed that I would get several times more dried fruit from the Foster than from the other, but at the end of the season I had more pounds of the Crawford, and they nearly all graded as fancy, while the others graded largely as standard and choice. I made a shipment of that fancy grade of fresh fruit to San Diego; another shipment of nice fruit, but not so large or highly colored, was made the same day to the same house; the first sold at once at 45 cents per box, the second was slow sale at 30 cents.

Save the Tree.—Experience has shown that a tree that is overloaded will produce small fruit, make but little wood growth and develop but few blossom buds for next year's crop, while one properly thinned and cared for will produce a vigorous growth, mature large fruit, and develop bud growth for next year's crop. In thinning peaches it is customary with most orchardists to leave the fruit from 4 to 6 inches apart.

Mr. Culbertson has adopted a method of leaving a peach for each $\frac{1}{16}$ of an inch in thickness of the limb; if it is $\frac{1}{8}$-inch thick, leave two peaches; if $\frac{1}{4}$-inch thick, leave four peaches, etc.

Apples and Pears.—Pears and apples nearly all

grow on short spurs, on large limbs, and do not require as close thinning as the peach, except on the ends of the limbs. Spurs that bear a cluster of fruit seldom develop blossom buds, so if there are not spurs without fruit, it is policy to thin in order to secure a crop next year. With pears, I thin to three in a cluster, and, as soon as they will ripen, pick one from each of these for market, leaving the others to develop.

Thinning the Bloom.—Much has been said about pollen exhaustion. An Escondido man's experience was that if one-half the blossoms be taken from a shy-bearing tree, you will get a full crop.

A neighbor had Crescent Seedling and Sharpless strawberries that blossomed full, but bore little fruit. They pulled off one-half the blossoms, and in a week's time had more berries at once than they had had in all the season before.

We are thoroughly posted on the political question of gold and silver, and know we are right, but we don't know enough to learn from the experience of nature on an off year to properly thin our fruit and thus preserve the fertility of our soil, prevent the exhaustion of our tree, and produce the product that brings the best price.

Lemon Curing.

One of the most important papers read at the late Farmers' Institute at El Cajon was by R. C. Allen, manager of the Sweetwater Fruit Company, on "Lemon Curing." In part he said:

What is Curing.—I think the use of the term "curing," thereby meaning to hold lemons in storage for an indefinite time until market conditions are suitable, has tended towards a confusion of ideas. It seems to imply a "processing," which once performed renders the lemon capable of being kept as long as wished without special care—very much as dried fruit fruit is kept. Curing lemons simply amounts to coloring and ripening the fruit under such conditions of temperature and humidity as will give the least decay and keep the lemons fresh and firm. A few years ago most of us supposed that definite preservative processes were known to the Sicilians, and there was talk of sending over an emissary to ferret out their secrets. The idea was fostered by a prominent grower of Riverside, who gave the public to understand that he had discovered the philosopher's stone as far as lemon curing was concerned. We all thought he must have some solution for dipping, and at any rate some process unknown to other growers in this State, especially as for some years he threw a cloak of mystery about the matter. Great then was our disappointment when the State published his researches and we found that he was working on the same lines as some others and really had nothing new to say. So also as regards the Sicilians. We now know from our consular reports that they rarely think of holding their lemons, and that the idea of "curing," as we had understood the term, has probably never entered their minds. Indeed we might have known this from the fact that out winter markets in the East are generally glutted with lemons which have to be sold at a price which must frequently make a heavy loss to the growers or importer. Obviously if they had possessed the golden secret this would not be so.

How the Sicilians Do.—The common practice in Sicily is to pack the fruit within a few weeks after it has been picked, generally before it is fully colored. The ripening process goes on during the voyage, and the lemons arrive on this side in just the condition the market wants. Nearly all the lemons of Sicily are shipped from the three ports of Palermo, Messina and Catania. The fruit is grown in the outlying districts and by the time it has been hauled to the city warehouses and sorted over it is ready for packing. Sometimes after the first packing it is allowed to stand a fortnight or so and then repacked for export. Ordinarily during the winter spring months the fruit arrives in fine condition, much of it is very handsome. I was much interested last March in looking over two cargoes in Boston as they were exposed for inspection before the auction. There were many different styles of packing; some very elaborate and handsome. The expense must be considerable even for them. Yet the very fanciest brought only $2.25, and fine lemons such as class fancy sold as low as $1.50.

You must excuse this digression. Yet it is important for us to keep posted about our competitors, I will add that it is common to hold the best of this winter stock—November clips being preferred—for some months on this side. The truth seems to be that after all lemons do not differ much from some other fruits; for instance winter apples and pears. Careful selection and careful handling will enable you to hold them several months in a fit condition to market.

THE FIELD.

Harvesting Kaffir Corn.

Kaffir corn, as our readers know, is one of the sorghum family, of which Jerusalem corn, Egyptian corn, millo maize, etc., are its close relatives. These grains are largely grown in the interior of California and are proving of great value. As they are sown late on moist lands, there are probably considerable areas still unharvested, and readers will be benefited in some cases by reference to an account of methods of harvesting these grains which Prof. Georgeson of Kansas writes for the *Prairie Farmer*. We gave some time ago a sketch of the whole culture of the plant. The harvesting is supplementary thereto.

When to Cut.—Kaffir corn has the very valuable property of remaining green after the seed matures until killed by frost. This characteristic is valuable because it enables the farmer to get a ripe crop of grain and still secure a first-class article of fodder. When the ear matures on the corn plant the fodder dries up and dies, and it is well known that this dead fodder is not as good forage as fodder which has been cut while green and properly cured; and, on the other hand, if corn is cut green the ears are not developed and we sacrifice a large portion of the grain. A first-class quality of fodder and a full crop of grain can, therefore, not be secured from the corn plant at the same time. In Kaffir corn we can, and advantage should be taken of this fact. The proper time to cut Kaffir corn is, therefore, as soon as, but not before, the grain has fully matured, or when it becomes hard, brittle and mealy to a degree. In Kansas and Oklahoma, where large acreages are grown, it is quite common to cut the heads off with a header, cure them—that is, cause them to be dried out thoroughly—and then thresh them, while the forage is left in the field to be fed off by cattle during winter. In practice it is found difficult to adjust the header to cut off the heads without taking too much of the green forage, which impedes the drying of the heads. To overcome this difficulty special Kaffir corn headers have been devised and are now on the market.

Curing the Fodder.—It is extremely wasteful of of good food to let the stalks remain in the field to be killed by frost and devastated by the elements, and can be justified only where food is very cheap, labor high and the grower with but little cash to pay for it. To save all the food the stalks should be cut and cured as corn fodder is cut and cured. If grown on a small scale cut it by hand with corn knives; if his is too slow and costly, use any improved corn cutter, or corn harvester with binder attachment. We have generally used a corn cutter which cuts two rows at the time and is operated by one horse and two men. Sometimes a rank growth of stalks may be so badly tangled by heavy winds that a two-row cutter cannot be used. This is not the case as frequently as with corn, however, as Kaffir corn is shorter and more stocky.

Treatment of the Heads.—When the shocks are thoroughly cured the heads should be cut off and the fodder housed or stacked in some place convenient to the feed yard. The heads can be chopped off very rapidly by laying a large armful from the shock with the necks across a block of wood and using a corn knife, or, better still, a broad axe. Some growers cut the heads off one by one in the field and gather them in a wagon box. This is rarely done except when the fodder is left to be pastured off. In any case, it is not an economical way of handling them. Many Western farmers do not cut the heads off at all, but feed fodder, heads and all, from the shock. This plan, too, is to be condemned as productive of too much waste. Nevertheless, there are situations in which it is the more economical method of procedure. When food is cheap and the threshing comes high, or if a mill on which to grind the grain after it is threshed is not available except at too great cost, it may be cheaper to allow some grain to go to waste than to incur the necessary expenses of threshing and grinding. But when the crop is to be utilized to its fullest extent the heads must be threshed and the grain ground.

Threshing.—The threshing is readily done on an ordinary machine. The seed of the red variety is rather brittle and is apt to crack badly in the thresher. This is no drawback, however, unless it is to be marketed or used for seed. It can be largely obviated by slowing down the speed and by removing the concave and instead put in boards. It is not desirable to run the whole stalk through the thresher as is sometimes done. The fodder suffers too much by it. Instead of deheading the stalks, the grain may be beaten out by holding the heads on an armful of fodder against the cylinder for an instant, but it is usually cheaper and swifter to cut the heads off than to handle all the fodder in that manner.

Grinding.—Threshing is useless unless the seed is ground before it is fed. The grinding enhances its feeding value. If it is not ground, a very large per cent of the seed will fail of mastication and pass through the animal undigested. As to the feeding value of Kaffir corn, we have experimented in feeding it to both hogs and cattle, and it appears that the grain of the red variety is slightly inferior to corn. We found in one experiment 100 pounds of corn to be equal to 117.5 pounds of red Kaffir corn as food for pigs. There are reasons for supposing that the white-seeded varieties are more nutritious than the red, but we have as yet not tested the question experimentally.

The Pasteur Rodent Destroyer.

To the Editor:—I am much obliged by your note of the 2nd inst., forwarding inquiry from Mr. F. Barbour, of Clayton. Mr. Barbour states that he would like to use the Pasteur virus upon the squirrels in his locality, but is afraid to try it, lest it should start some disease among his stock, or even among his family. Mr. Barbour also inquires whether this virus is from Paris, France, or whether the name of Pasteur is only assumed by this company.

Soon after the discovery of a vaccine for anthrax by Pasteur and his colleagues, Chamberland and Roux, a company was formed in Paris for the purpose of securing from these gentlemen the exclusive rights in such vaccine and exploiting it commercially in all countries of the world outside of France. In the course of time the business was duly developed throughout Europe, and in the latter part of 1894 the Pasteur Anthrax Vaccine Company of the United States and Canada was formed for the purpose of securing from the said French company the rights in the said vaccine in the United States and Canada.

We have kept pace with the progress of science and have from time to time placed upon the North American market such preparations as have been found of value, notably the antitoxins for diphtheria, tetanus, streptococcic infections, venomous bites, etc. These and many other articles in which we deal are specially made for us in the Pasteur laboratories, which are located in the Pasteur Institute at Paris, France. The anthrax vaccine, therefore, became a comparatively small item in our business, and a few months ago it was decided to change the name of our company to that of the Pasteur Vaccine Company.

I have in my possession certified copies of the contracts made with Messrs. Pasteur and colleagues, as well as my power of attorney and appointment as sole agent. I have frequently taken opportunities of presenting my authenticated credentials and shall be happy to submit them to the examination of your representative in this city. I may say, however, that when in San Francisco last year I was duly accredited to leading parties in that city—notably to the branch office of the Equitable Life Assurance Society, whose medical director introduced me to Messrs. Clinton E. Worden & Co., with whom I made arrangements at that time to handle our diphtheria antitoxin on the Pacific Coast. We are only too glad to be investigated, and solicit full inquiries. I trust you will pardon this rather long story, but I wish to put you in possession of sufficient information to enable you to make your own inquiries or satisfy yourself of our origin and genuineness. We now have customers throughout the country, and have been pretty thoroughly investigated, but are nevertheless glad to give full information to anyone contemplating business relations with us.

In regard to the rodent virus, I enclose herewith circular, which correctly sets forth the facts in regard to this preparation. We prepare it for the market here from primary cultures (as they are called) received from the Pasteur Institute in Paris every week. Harold Sorby.

56 Fifth avenue, Chicago.

THE CIRCULAR ABOUT THE VIRUS.

We take the following extracts from the circular sent us by Mr. Sorby:

In Europe.—Dr. Jean Danysz, of the Pasteur Institute, Paris, after more than a year of diligent research, in 1893, succeeded in isolating the specific germ of a contagious and fatal disease affecting the rodent family. After experimenting with his virus and being thoroughly convinced of its practical value, he exhibited its wonderful workings before the Minister of Agriculture of France, and demonstrated his ability, by the use of the virus, to introduce the disease and destroy the pests at will.

His demonstrations were so numerous and so universally successful that the system was at once adopted by the Agricultural Department of the French Government, and from there rapidly gained recognition in numerous other countries of Europe. During the last two years the virus has been employed in the treatment of hundreds of thousands of acres of the infested lands of France, and millions of rodents have succumbed to its power.

In America.—During the early months of this year Mr. Harold Sorby, manager of the Pasteur Vaccine Company of the United States and Canada, carried out exhaustive experiments with the virus upon gophers, ground squirrels, etc., obtained from Idaho, Oregon, Washington, Wyoming, Dakota, California, Kansas, and the northwestern territory of Canada. Being satisfied with the efficacy of the virus upon the species of rodents found in this country, the Pasteur Vaccine Company arranged with Dr. Danysz to come to Chicago and establish a laboratory for its

manufacture. Dr. Danysz and Mr. Sorby have recently made a trip to Ames, Iowa, where, with the assistance of Professors Osborne and Ball, of the State Agricultural College, they determined various points in regard to the practical application of the virus.

The Pasteur Vaccine Company now offers the virus to agriculturists, being well assured that the results to be obtained from its use in the United States and Canada will be as satisfactory as those already secured in France; that is to say, that the ground squirrels, gophers, prairie dogs and jack rabbits, which constitute such a pest in the West and Northwest, can be exterminated with it. The virus does not act as an ordinary poison, but quickly causes the rodents to be attacked by a highly contagious and fatal disease, which not only destroys those that eat the virus, but spreads rapidly among their fellows; and, although it is so destructive to the class for which it is intended, it is absolutely harmless to man and to such valuable domestic animals as horses, mules, cattle, sheep, hogs and goats. It may, however, be hurtful to poultry, and care should be taken not to feed the virus to fowls of any kind.

How It is Used.—The application of the virus is extremely simple and is as follows: Empty the bottle of virus into a bowl and add to it an equal quantity of water, the water having been previously boiled with a small quantity of salt and allowed to get cold. A sufficient quantity of stale bread is cut into a number of very small pieces and soaked in the virus and water. This prepared bread is distributed in the fields, two or three pieces being placed in each hole. The squirrels, gophers, etc., readily eat this bread and begin to die from two to five days afterwards. The disease, being highly contagious, rapidly spreads and destroys all the rodents in the section treated. The distribution of the bread is so simple and free from danger that boys can, if necessary, be employed to do the work.

This virus has already been used to some extent in this State. L. G. Dreyfus of Santa Barbara has written that he and his friends have met with success in its use. We shall be glad to hear results from all who introduce it.

Suggestions on Fertilizers.

The attention of our readers is called to a suggestive little book entitled "Principles of Profitable Farming." In this book experiments are described upon different soils and crops, and the farmer is instructed how to use fertilizers properly, in order to procure the largest yields.

The reading matter is divided into three parts, as follows: Part I describes some of the important results first obtained by Prof. Wagner, director of the experiment station at Darmstadt, Germany, through green-manuring by means of potash-phosphate fertilization. Part II gives an account of the experimental farm at Southern Pines, North Carolina, which is under the auspices of the North Carolina State Horticultural Society, acting in co-operation with the State experiment station. The object of the experiments conducted at this farm is to ascertain the relative proportions of the three principal fertilizing ingredients needed by various fruit and vegetable crops, viz., potash, phosphoric acid and nitrogen. Part III is a summary of many important results obtained by the use of potash in experiments conducted at experiment stations in the United States.

The foregoing outline will give the reader some idea of the scope and character of this little book. All the facts are stated in clear and concise language, and the principles of profitable farming are set forth in a practical way. The book, which is full of illustrations and neatly printed and bound, is free of charge and can be had on addressing the German Kali Works, 93 Nassau street, New York.

Corn Hay.

Corn hay is the fodder as it comes from the machines for husking corn. The whole stalks are put into the machine, the ears are snapped off and husked, and the stalk crushed and broken up. Mr. J. E. Wing last fall estimated that horses will eat about 80 per cent of it; I place it at 75 per cent, but I find that the cattle will eat a little more and place their consumption at 80 per cent. I think that they could be easily forced to eat a greater proportion, if made hungry; but it is my rule to feed liberally, and I do not know what proportion a hungry animal would eat, writes Mr. Latta, in *Rural New Yorker.* The corn must have time to cure in the shocks after cutting, and it must be free from moisture when shredded, if stored in large quantities and packed in to economize space. If these conditions can be reached and the fodder be kept dry after being shredded, most excellent feed will be secured that all stock relish and will eat in preference to good timothy hay, and it will keep them like hay. It packs readily in the mow, and becomes quite solid with moderate tramping; but if at all damp when shredded it must not be tramped, but tossed back loosely with the fork or it will heat and spoil.

THE IRRIGATOR.

Irrigation and Fruit Dropping.

By C. B. Messenger, before the Farmers' Institute in Pomona, September 1, 1896.

Irrigation Not a Panacea.—At the outset I wish to state my belief that the application of irrigating water to trees in the spring, or at any other time, does not alone necessarily insure a heavy crop for the succeeding season. Therefore I have taken the liberty of enlarging somewhat upon the subject which is given me by your committee, and give my views of what is necessary to keep our orchards in such condition that in all seasons they may bear good crops.

It may seem trite, but none the less true, that any plant in good healthy growing condition is better able to withstand an attack of pests, or any abnormal condition of weather, or other outside influence. I have seen a large, healthy orange tree of eight years completely girdled by gophers for 14 inches—not a particle of bark being left. Yet by covering it with moist dirt, and flooding with water, a new bark was formed and the tree went through carrying a full crop, with no apparent injury. It may be said this was due to the treatment after the injury, but I have seen the same treatment fail with other trees not so badly injured.

Keep the Trees Strong.—In the dropping of oranges during the past spring I have taken some pains to inquire as to its real cause. As a rule the farmers ascribe it entirely to the hot winds. At it is doubtless true that the extremely hot weather following the long spell of cool weather found the trees partially dormant, and the damage was wrought on the young, tender oranges and lemons before the sap could start to flow freely. But on the other hand we can see orchards that still have a fair crop of fruit. "Why is it?" is a question that is easily asked, but not so easily answered. The most universal remedy that is recommended is water, and, in so far as it is used to put the trees in good condition, is doubtless effective. To do that it should be applied two or three weeks before the hot or cold weather. Or, in other words, the tree should at all times be in strong growing condition. To accomplish this, water drawn deep in the ground is necessary. But superficial surface irrigation is of little avail. You will notice those irrigators who are applying water in small quantities every week or two, merely running the water in the furrows till it reaches the other end, are the ones who scarcely ever have a crop, whether we have hot or cold weather or the best of conditions. And right here I might say that the ideal season never comes, for there is always something with which to contend.

Frequent Irrigation.—My own trees I plan to irrigate every six weeks, running the water eight or ten hours in each furrow. On heavy soil this would not be sufficient, but on my sandy loam I think it is. Following the irrigation I cultivate deeply and thoroughly. I deem the deep cultivation essential that the surface roots may be destroyed. This is still better accomplished in the wet season by deep plowing. I am aware that here I am on dangerous ground, for many do not agree with me in this. But I am thoroughly convinced that deep plowing is beneficial in all seasons, and especially so in dry ones. The roots are forced to go down to where the supply of moisture is more permanent, consequently such trees are not so quickly affected by any hot wave or sudden change. Therefore I say that the first requisite of always securing good crops of oranges is deeply rooted trees that are irrigated so thoroughly that at all times there is in store a plentiful supply of moisture.

Nitrate of Soda.—Should I stop here and say this is the one thing needful, I presume there are some here who might declare it a fallacy and quote their own experience in proof. In fact, in my inquiries I consulted one orchardist who had irrigated thoroughly three different plats respectively four weeks, two weeks and one or two days before the first hot wave this spring, and yet a large percentage of his crop went to the ground. "Had he fertilized?" Yes, quite heavily with unrotted stable dressing, which probably contained sufficient potash and phosphoric acid, but doubtless nitrogen in very limited quantities. Had he applied a small quantity of nitrate of soda I venture the assertion he would now have a fair crop. In mentioning nitrate of soda I do not claim it is the best way of securing nitrogen, but I have used it and know it to be good. Bone meal, or potash, or stable dressing I always plow in during January or February, but nitrate of soda I sprinkle on the surface and cultivate in just as the trees begin to blossom. My trees are eight years old, on which I never apply over one pound, and often only half a pound, and have always felt extremely well repaid for the extremely small outlay, for I have felt that I secured firmer and finer fruit, as well as the assurance of a finer crop.

A Balanced Fertilizer.—I have never enperimented by treating different plats of trees with different fertilizers for the reason that I am compelled to realize as much as possible from each one of my trees, so I leave the experimenting to those better able and to the experiment stations. But from my observations I heartily believe that many of our fruit growers are losing money from one-sided fertilizing, that is, continually using one kind of fertilizer that does not contain all the necessary elements. As a sound requisite to prevent the dropping of fruit you will see that I believe in a well-balanced fertilizer.

Pruning.—Two other points I might mention as having influence on the health of the tree and consequently its power of holding its fruit. One is the small branches under and inside the trees which have fulfilled their usefulness and ceased to bear. These should be removed. They are like a parasite on the tree—producing nothing, yet demanding a certain amount of sap to maintain their life. That may be of small moment and hardly worth the expense of its removal. Yet if a tree is straining under all it can bear under favorable conditions, it may be a determining factor at a time when the tree is subjected to trial.

Scale Insects.—As the last requisite I will mention freedom from scale. This is too self-evident to need mention here, as indeed are all the points I have made in this paper; for all our fruit growers are intelligent enough to be aware of the blighting effect of this pest. But investigate the orchards and you will see that they do not act upon their knowledge. It is but a step from success to failure and these small points may mean much; at least we should not depend upon water as if it were a magic cure-all. Eternal vigilance is the price of successful fruit growing, and to explain how some men will pay a large sum of money for an orchard, and then give it the indifferent care which many do, requires almost as great a stretch of the reasoning powers, and even of the imaginative, as it does to explain how in the world a California fruit grower can be a believer in free trade or free silver.

THE VETERINARIAN.

Shoulder Gall.

Sometimes galls are the result of ignorance, not indifference, writes G. W. Morrison in *Field and Farm.* I recently saw a horse with a very sore shoulder. I asked the driver why he drove a horse with such a sore shoulder. He said he had to use the horse, and had done all he could to get the shoulder well, calling my attention to the grease he had put on the sore and to a pad which he had placed right on the sore. When I asked why the pad was placed where it aggravated the evil, I was told that it was soft and ought to make the pressure on the sore spot easier. It had not occurred to the driver that the pad so placed really increased the pressure on the spot. In ten minutes there was a pad just above the sore and another just below it, and none over it, and my friend had some instructions about curing galls, which I will repeat.

The pad should not be a very thick one—usually half an inch in thickness when the animal is pulling is better than more—but a broad pad, and it should never be stuffed with cotton or wool, which forms into hard lumps in a short time, but with fine blue stem hay, which does not form into lumps, and which does not lose its elasticity. A hay pad springs the collar forward as soon as the draft is removed, resting and cooling the shoulder. The best pad is made of an old trouser's leg wrapped around the collar and held in place by the hames. Of course there should be very little hay under the hames and between the collar and the neck of the horse.

Do not put grease of any kind on a gall. It softens the hide, increasing the probability of its being broken and worn off; and if the flesh is exposed, grease keeps it tender and more sensitive, while not aiding so much as some other things in healing.

One of the best preventives of galls, after properly fitting collars, is strong salt water used as a bath on the shoulders each evening. Its use should be begun four weeks before the animal is put to hard work. The preventive of galls is a well fitting harness. A harness should never be bought when the animal is not at hand to be fitted. This is true of all parts of the harness, and particularly of the collar. There is as great a variety in horses' shoulders as there is in men's noses, and because a collar fits one horse is no reason why it should fit another.—Montana Stockman.

Remedy for Flies on Cattle.

Take coal tar, two parts, and coal oil and grease, one part each, and mix with a small amount of carbolic acid. Apply with a cloth by moistening the hair and horns of the animal with the liquid. In the applications include feet and legs, and it will drive every fly away, and one application will last ten days or more in dry weather. Apply as often as necessary and your cows will be entirely secure from flies

of all kinds. Any kind of old lard or grease can be used. Coal tar is the base of this remedy, and, when too thick to spread well, use more coal oil; when too thin to adhere well, use more coal tar. Carbolic acid will cost about 50 or 60 cents in crystals by the pound, and every farmer should always keep it on hand, as it is indispensable in its many uses. This remedy is equally effective as a lice exterminator on poultry, and is used simply by painting the sides of the hennery and roosts and dropping boards with the liquid. For young chickens, saturate a cloth and place the mother and young chickens in the box for an hour or so. This recipe is equal to any preparation in the market.

THE POULTRY YARD.

Poultry Hints.

To the Editor:—Our article of July 11th upon Summer Hatching drew upon us a surprising amount of questions—surprising in their minuteness and in the very superior people asking them. We were also much surprised by the number of readers in our own section and the wide range of occupation, many of them promptly visiting our place. As the questions are much alike, and as many others are probably interested, it may be well to answer them here just as they came, the answers indicating the questions.

Our Local Poultry Interest.—The poultry industry is becoming a leader on the Pacific coast and will doubtless be very large, as the climate, food and demand are all very favorable. There need be no reasonable fear of overproduction, when you think that ranch hens can be fed for about thirty cents each per year and that pure-bred stock, of selected laying capacity, produces from 100 to 200 eggs each per year, while the average common hen yields about seventy.

How to Proceed.—The breed to choose is the one *you* prefer, and stick to one breed if you can.

Starting with eggs is cheaper, while with birds is quicker.

Kill all sick birds; very few can correctly diagnose a sick fowl. Then how can you properly treat it, and, if infectious like roup, the risk is too great, as, even if the bird recovers, it is of no value.

All our stock is raised on dry food, fresh water, green stuff and hard grit—all they will eat and as often, and as much variety, cracked wheat, boiled beans, rolled oats, boiled potatoes, bread, corn cake, boiled wheat, etc.

Incubator chicks never have lice if kept away from grown fowls. There is no difference between them and hen-hatched chicks. Hens and incubators often make poor hatches; but if both do their business rightly, they merely apply the necessary heat that releases the chick from its shell, and neither affects the young bird in any way. That is all done before the egg is laid.

Fruit, tomatoes, squash, etc., seem to be beneficial to poultry.

It does not injure the laying qualities to cut the wings.

Hens are profitable layers until four or six years.

We keep several hundred standard bred birds and hatch many hundred chicks to order and sell many more at a few days old, telling the buyers how we raise them.

Eggs pay better than meat chickens, and white eggs pay better than brown, and large pay better than small.

Poultry pays well in an orchard and is a great benefit to the trees.

Feed young chicks meat after ten days old—a little cooked three times a week; no fat. They should be kept warm at night for six or eight weeks, then separate the sexes and house twenty-five together in tight houses.

We hatch and raise in summer because preferred, and we have to, as there is too great a demand for "breeding" eggs the rest of the year.

You can raise exhibition stock and market stock in the same birds, at one place, at the same time, without doubt. Pure-bred poultry pays best, just as pure Berkshires, or Holsteins, or Percherons, or Merinos, or Italians do.

There are many more questions, but this should do for the present. Carman Brothers.

San Jose.

Feeding in Hot Weather.

Of all the hot weather we ever experienced, the last ten days of July and the first few days of August beat anything we ever sweltered through, writes H. B. Geer in the *Western Rural*. Nashville was like an oven, day and night. There was no respite. It just kept it up. Not only was it hot in Nashville, but hot likewise everywhere else we could hear of. It was a general heated spell that was widespread. It affected the fowls as well as the people, and made the question of feed an important one. To have fed corn, green cut bone and the like would have resulted in disaster. We put our chickens on a light diet, and held them to it. We fed wheat, bran, oats and new potatoes cut up; no meat, grease or bone or corn in any form. In their water we put a small amount of sulphate of copper every other day, the object being to prevent dysentery—a disease that often comes with the hot weather. The bluestone acts as an astringent, and heals inflammation. At the same time it is a great purifier, and kills all organic matter in the water. This fact makes sulphate of copper a good disinfectant, when in solution, that will purify the waters in low places, sinks and the like.

Lime in the poultry yard is another good thing for hot weather. Get a lump of unslacked lime, lay it on the ground and pour water on it. It will soon crumble up and furnish a nice supply of granulated lime for the chickens. A pile of sand and gravel close by is another good thing for the fowls. They need every assistant of the kind to help them over the heated spells in good shape.

Extreme heat acts on the hens like extreme cold. They cannot and should not be expected to lay to any great extent while overheated the greater part of the time. It takes a pleasant temperature, either natural or artificial, to obtain the best result in eggs.

Work in Poultry Raising.

In one of the United States consular reports, the consul has this to say of the raising of poultry in France: "It is estimated that the French farmer realizes a profit from his poultry ranging from 17 to 50 per cent; in some cases it has gone as high as 85 per cent, though the average is not much above 20 per cent. This is an excellent showing for a pretty, easy and interesting industry, where a man can nurse his laziness and at the same time make money. It has been estimated by Frenchmen who have investigated the matter that one hen can lay 450 eggs in three years, or 150 per annum, and that by doing this she pays for herself twice in the time, leaving a double profit on the eggs that she has given her owner, and returning him the capital originally invested in her purchase at the end of the time, when she is sent to market, as it is supposed that, after passing the period of usefulness, she is fit for the table of the citizen."

We take exception to the above as to one item—that relating to the supposed soft job held by the French poultryman. Imagine a man engaged in the poultry business nursing his laziness! Only the novice would do that, and he would soon find himself out of pocket on account of it. The man who raises poultry successfully, whether in America or France, must work, and *does* work. There are a thousand details that cannot be neglected. He is engaged in a constant warfare with disease and vermin. The health of the fowls is his constant care. They need to be rightly fed more than any other farm animals. Of all poultrymen that look after the little things, the French probably lead. Especially is this true of the treatment of poultry diseases. An American kills a hen that is sick, but the Frenchman doctors her. There is no laziness in poultry raising, especially in France.

THE DAIRY.

Fancy Cheese Comes Under the Filled Cheese Law.

In answer to an inquiry submitted by the Dairy Division of the Department of Agriculture to the revenue branch of the Government, it appears that all fancy cheeses are likely to come under the restrictions now visited by law upon filled cheese. G. W. Wilson, acting commissioner of internal revenue, writes as follows:

You describe this cheese as of "high grade and quality, put up in small packages of paper, wood or porcelain, and sold at high prices," under such names as "Club House Cheese," "Meadow Sweet Cheese," "American Cheese Food," etc.; and you say: "While the best New York and Wisconsin State factory cheese is the basis, and forms the bulk of these articles, they are variously prepared and contain olive oil, cottonseed oil, butter fat and whey syrup, always added in very small quantities, and solely for the purpose of improving the consistency of the preparation and its keeping quality. In some cases a little wine or brandy is added to increase the flavor."

There has not been, up to this date, a case presented from any collection district with samples of this fancy cheese for examination. But it appears from an examination of the first and second sections of the act of June 6, 1896, imposing tax on "filled cheese," and special tax on manufactures thereof and dealers therein, that the fancy cheese which you describe must be held to be "filled cheese" within the meaning of this act.

The language is such as apparently leaves no room for any other construction, the definition of cheese in the first section precluding every "food product" from being regarded as cheese except that "which is made from milk or cream without the addition of butter or any animal, vegetable or other oils or fats foreign to such milk or cream;" and the definition of "filled cheese" in the second section requiring that every substance or compound in the form of cheese shall be regarded as "filled cheese" when it is "made of milk or skimmed milk, with the admixture of butter, animal oils or fats, vegetable or any other oils, or compounds foreign to such milk."

To hold that cheese, as it is defined by the first section of the act, may be broken up and manipulated and mixed with olive oil, or cottonseed oil, or butter fat and whey syrup, even in small quantities, and still be regarded as cheese and not as "filled cheese," would, it seems to me, be a construction for which it would be difficult, if not absolutely impossible, to find warrant in the plain terms of the statute, and which would inevitably lead to operations tending to the defeat of the "filled cheese" law.

The Largest Silo in the World.

California has some of the largest agricultural things in the world, but it must yield the palm in silos to Wisconsin. The form of the silo is circular and sixty-two feet in diameter inside with no partitions in it. The center of the roof is surmounted by a cupola which has many large windows in it that give plenty of light to the whole interior. The extreme height from bottom to top of the cupola is eighty feet; from bottom to top of the plate is forty-three feet. The lower nine feet—most of it below the surface of the ground—is made of stone, the balance of lumber. The studding is 2x6, lined on the inside with three thicknesses of seven-eighths inch pine boards with two thicknesses of tarred paper smeared with coal tar between; also a coat of coal tar on the inside. There are two thicknesses of boarding outside, the last one being drop siding. The floor is paved with stone, and that, as well as the stone wall, is plastered over with Portland cement. It took seventy-two cords of stone, forty barrels of cement, 62,000 feet of lumber and a big wagonload of nails. The cost of construction was about $2400. The capacity, when filled to the top of the plate, figured, according to Prof. King's table for estimating the capacity of silos, is 3228 tons, though, on account of its being so broad and deep, it is probably some more. This is enough to feed 350 cows fifty pounds each a day for 365 days. There are on the farm now 142 acres of corn, most of which is the large southern ensilage corn. The growth is immense, but there will not be enough to fill the silo. The number of cows now on the farm is a little less than 200, but the intention is in years to come to plant more corn and keep more cows and run the business to the full capacity.

Smaller Silos Are Better.—C. P. Goodrich, the silo expert, thinks that it is a mistake to build so large a silo. Even if one can profitably handle and feed so much ensilage, it would be better to build smaller silos and as many of them as needed. With smaller silos the ensilage could be more conveniently put in and taken out, besides a greater depth could be fed out at a time so that the silage would be fresher and better when fed. That is a part of Wisconsin where silos have been abundant with the dairyman for many years, and a great many new ones have been put up within the last two years, because the dairymen have found the feeding of silage so profitable. Last year Mr. William Phillips of Lake Mills built a round silo of 1000 tons capacity. Both Mr. McGeoch, the owner of the large silo described above, and Mr. Phillips had for some years smaller silos and knew the value of silage for cow food.

The Wisconsin Dairy School.

To the Editor:—The winter term of the Wisconsin Dairy School will begin this year December 1st and close February 20, 1897. This is one month earlier than the school has opened in the past. Several new features in the way of machinery and apparatus will be added to the school equipment this next winter, and we hope to make the instruction better than ever before. There are good prospects for a large class entering the school for the winter term. Fifty students have already been registered and applications are coming in daily. There is still room for more students, both residents of Wisconsin and non-residents, but they should apply to us at once, as our accommodations are now half filled. The school will be supplied with from 6000 to 10,000 pounds of milk daily. Seven professors will each give a course of lectures during the term, and the four departments of the school—the creamery, cheese factory, pasteurizing room and the milk-testing laboratory—will be fully equipped.

At the present time over 165 former students of the Dairy School are operating factories in Wisconsin. A new illustrated circular describing the Dairy School and its work has recently been issued, and will be sent to those applying for it.

E. H. Farrington,
In charge of Dairy School.

Madison, Wis.

Patrons of Husbandry.

The Coming State Grange.

OFFICE OF THE MASTER,
SACRAMENTO, Sept. 7, 1896.

The Twenty-fourth Annual Session of the California State Grange will be held at Sacramento on October 6, 1896, at 10 o'clock A. M.

The sessions of the State Grange will be held in the Senate Chamber of the State Capitol. The Feast of Pomona will take place in the Assembly Chamber. The degrees will be conferred in Granger's Hall, Tenth and K streets

The programme for the week so far arranged by the local committee will be: Tuesday evening, reception at the Crocker Art Gallery; Wednesday, excursion to Folsom. The Grangers and their friends will visit the State Prison as the guests of Warden Aull. They will view the immense dam, canal and electric power house of the Sacramento Electric Light and Power Company. Carriages will be provided for those who wish to take a short drive through Orange Vale Colony. Light refreshments will be served in the grove at the depot by the citizens of Folsom.

Friday evening has been set aside by the Executive Committee as the time for conferring the fifth and sixth degrees. After the feast in the Assembly Chamber a complimentary party will be tendered the visiting Grangers at Granger's Hall.

Grange headquarters will be at the State House Hotel, corner Tenth and K streets. The Western, Golden Eagle and State House hotels will furnish accommodations, reduced rates, for $1 per day. Rooms in private and lodging houses can be had near headquarters.

Arrangements have been made with railroad companies for usual reduced rates, namely, a fare and a third. The usual railroad certificates will be furnished by Secretary Mills.

Send names of delegates and alternates to Secretary under seal, so as to be ready for Committee on Credentials at the opening of the session. Officers' reports should at once be made out and sent to the Secretary for publication.

Fifth and sixth degree blanks will be sent each Grange.

For general information address the Chairman, Daniel Flint, or Secretary, E. Greer, of General Committee. For information concerning hotels or accommodations address T. A. Lauder, 1006 K street, Sacramento.

No pains will be spared by the Grangers of Sacramento and vicinity to make the coming session of the State Grange a pleasant and profitable meeting for all who attend.

Nothing will be left undone by them to make the twenty-fourth session a success, and they hope to see a large representation from each section. Sacramento is a railroad center and easy of access. Not only the official representatives are expected, but good delegations, especially from the larger Granges.

Let their expectations be realized. Come one, come all, and let us have a rousing good session.

I take occasion at this time to announce the standing and special committees of the session:

STANDING COMMITTEES.

Credentials: E. B. Owen, Chairman; Bros. Will Coy, Jas. Kelley, Sisters C. H. Allen, W. H. Cunningham.

Division of Labor: S. P. Saunders, Chairman; Bros. T. E. Davies, G. N. Whittaker, Sisters D. M. Winans, Etta Cornell.

Resolutions: S. T. Coulter, Chairman; Bros. Geo. Hogan, A. E. Farnham, Sisters J. J. Roadbouse, Wm. Eddie.

Good of the Order: D. M. Winans, Chairman; Bros P. A. Kise, L. H. Applegate, Sisters C. A. Kennedy, Don Mills.

Publication: Cyrus Jones, Chairman; Bros. Don Mills, J. B. Carrington, Alfred Holman, E. F. Adams.

Finance: G. N. Whittaker, Chairman; Bros. C. A. Kennedy, Isa Steel Jr., Sisters P. A. Kise, T. E. Davies.

Education: E. W. Davis, Chairman; Bros. C. H. Allen, J. J. Roadhouse, Chas. J. Wood, Sisters Ashley, M. J. Worthen.

Constitution and By-Laws: W. H. Cunningham, Chairman; Bros. O. N. Caldwell, E. L. Muzzy, Sisters ....., ...

Agriculture: Chas. J. Wood, Chairman; Bros. N. Paulsen, Geo. Conners, W. L. Overhiser, I. C. Steel, Sisters R. O. Baldwin, E. L. Muzzy.

Woman's Work: Sister S. P. Saunders, Chairman; Sisters Cora L. Beecher, Mary Flint, E S. Twitchel, Nelly G. Babcock.

Literary: Sister E. Z. Roache, Chairman; Sisters Cora L. Beecher, Frankie M. Greer, M. J. Worthen, Anita Dewey.

Music: Sister Emma Perry, Chairman; Sisters Etta Plummer, Gussie Wilcox, Roxy Denis, Frankie M. Greer, Bros. Jos. Holmes, J. Schermer.

Conferring Fifth and Sixth Degrees: A. P. Roache, Chairman; Sisters Mary Flint, E. W. Davis, E. Z. Roache, Jennie Gould.

Feast of Pomona: D. Flint, Chairman, and local committee of Sacramento county.

Co-operation: Wm. T. Gilkey, Chairman; Bros. Mark Thornton, J. H. Greenwald, Sisters ....., ...

Memorial: Wm. Johnston, Chairman; Bros. S. P. Saunders, Geo. W. Gaston, Sisters E. S. Johnston, W. L. Overhiser, S. T. Coulter.

Legislation: L. H. Applegate, Chairman; Bros. S. H. Higgins, W. R. Johnson, Sisters ....., ...

Transportation: Glen G. Harter, Chairman; Bros. Otto Speaker, Wm. Eddie, Sisters ....., ...

SPECIAL COMMITTEES.

Legislation: Bros. S. T. Coulter, Wm. Johnston, Geo. Obleyer, Jno. L. Beecher, E. Greer.

Education: Bros. Edward F. Adams, G. W. Worthen, C. W. Childs, Geo. Ohleyer, W. W. Greer.

Constitution and By-Laws: Bros. A. P. Roache, W. W. Greer, Don Mills.

District and State Fairs: Bros. Thos. Waite, H. J. Ostrander, J. D. Huffman, E. B. Owen, P. L. Bunce.

Profitable Products for Export to Foreign Countries: Bros. Geo. Worthen, — Healy, Harvey Gregory.

Committee on Lubin Proposition at National Grange: Bros. D. Lubin, Wm. Johnston, W. W. Greer.

Fraternally submitted,
W. W. GREER,
Master California State Grange.

Yuba City Grange Grieves for Late Brother Ohleyer.

At its last meeting Yuba City Grange adopted the following resolutions by unanamous vote:

WHEREAS, It has pleased the Great Master of the Universe to remove from our midst our late Brother, George Ohleyer, and

WHEREAS, It was but just that a fitting recognition of his many virtues should be had; therefore be it

Resolved, By Yuba City Grange, No. 65, that while we bow with humble submission to the will of the Most High, we do not the less mourn for our Brother who has been taken from us.

Resolved, That in the death of George Ohleyer the Grange laments the loss of a Brother, who was ever ready to proffer the hand of aid and the voice of sympathy to the needy and distressed of the fraternity; an active member of this society, whose utmost endeavors were exerted for its welfare and prosperity; a friend and companion who was dear to us all; a citizen whose upright and noble life was a standard of emulation to his fellows.

Resolved, That the heartfelt sympathy of this Grange be extended to his family in their afflictions.

Resolved, That these resolutions be spread upon the records of the Grange and a copy be transmitted to the family of our deceased Brother, and to each of the newspapers published in Yuba City; also to the RURAL PRESS.

B. F. WALTON,
B. F. FRISBIE,
JOSIE WALTON,
Committee.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING SEPT. 8, 1896.

567,531.—LAMP HOLDER—W. S. Arnold S. F.
567,442.—SOLDERING MACHINE—Ashley & McDermott, Brookfield, Wash.
567,372.—ALMOND HULLER—J. E. Beach, Routier, Cal.
567,289.—MOLDBOARD FASTENER—W. H. Bodenhamer, Hueneme. Cal.
567,335.—SEED PLANTER—G. W. Doane, Riverside, Cal.
567,464.—BRICK CARRIER—Fulton & Petersen, San Jose, Cal.
567,384.—SEALING METAL BOXES—Gersant & Buttifant, London, Eng.
567,386.—DRIER—Hall & Casper, Sacramento, Cal.
567,388.—CAR FENDER—P. Hennessy, S. F.
567,140.—CLEANING ROLLER—W. H. Hooper, Angels, Cal.
567,543.—TRAPEZE—G. J. Kinemann, S. F.
567,244.—HARNESS—C. H. Kooper, Paradise Valley, Nev.
567,397.—TIRE TIGHTENER—G. A. Krohn, Gold Gulch, Cal.
567,349.—TYPE WRITER—A. Matteson, Portland, Or.
567,405.—WRENCH—R McDonald, Magalia, Cal.
567,493.—FARRIER'S KNIFE—F. M. McCartea, San Juan, Cal.
567,403.—BOOK TRIMMER—D. Moon, Walla Walla, Wash.
567,253.—VAPORIZER—J. Pratt, Monrovia, Cal.
567,553.—FIRE ESCAPE—E. Riley, Spokane, Wash.
567,421.—CLASP—Thomson & Drever, S. F.
567,522.—CHEESE MAKING—W. M. Turner, Woodland, Cal.
567,430.—BICYCLE FRAME—S. M. Williams, S. F.

NOTE.—Copies of U. S. and Foreign patents furnished by Dewey & Co. in the shortest time possible (by mail for telegraphic order). American and Foreign patents obtained, and general patent business for Pacific Coast inventors transacted with perfect security, at reasonable rates, and in the shortest possible time.

A Good Showing.

WHAT A REPORTER LEARNED ABOUT A CERTAIN MEDICINE.

From the Journal, Minneapolis, Minn.

There is one proprietary medicine in use in this city, the name of which has become a household word, and that is a preparation known as "Pink Pills for Pale People." Shakespeare said, "a rose by any other name would smell as sweet." That may be so, but pills by any other name would not have the same attraction nor popular sales that Pink Pills have in Spokane, Wash.

A representative of the Minneapolis *Journal* started out the other day to investigate the merits of this popular and widely-sold household medicine. The evidence was on every hand. Hamilton B. Merrill, a young money-loaner of Spokane was seen by the newspaper man. Mr. Merrill made no secret of his remarkable cure by these little pellets.

"Do I know the efficacy of Pink Pills?" he reiterated. "I should rather think I do; they have been a blessing to me. I am not in the habit of praising proprietary medicine, but I must say that Pink Pills, as far as my case goes, has no equal in the world. A little over a year ago I began ailing and commenced to lose flesh rapidly. The doctor told me to stop smoking; this I did, but the result was even worse. My heart beats decreased to less than forty a minute. I was prescribed for by my doctor, but without receiving any benefit whatever. I continued daily to grow worse and my parents become alarmed over my condition. Some one suggested Pink Pills—I thought I would try them anyway. And I tell you that I cannot endorse them too highly, they worked like a charm in my case. My heart soon became normal again, my flesh increased, and I felt like a new man. To tell you the truth, I am still taking them. I have a sort of fondness for them yet and I am loath to give them up.

"I know of a young lady living in this city, whose condition was even worse than mine; she took Pink Pills and is one of society's gayest young ladies now. I wish I were at liberty to give her name, as I am sure she would only be too delighted to give them a hearty send off. I believe Pink Pills cannot be too highly recommended. They are gems, indeed."

Mr. Merrill is a man of twenty-two or twenty-three years of age, and to-day is the pink of health. He has a splendid complexion and would be the last person to be taken for one who had been so seriously ill only a few months ago. He is a splendid athlete besides and moves in the best circles of society here.

Dr. Williams' Pink Pills contain, in a condensed form, all the elements necessary to give new life and richness to the blood and restore shattered nerves. They are an unfailing specific for such diseases as locomotor ataxia, partial paralysis, St. Vitus' dance, sciatica, neuralgia, rheumatism, nervous headache, the after effect of la grippe, palpitation of the heart, pale and sallow complexions, all forms of weakness either in male or female. Pink Pills are sold by all dealers, or will be sent post paid on receipt of price, 50 cents a box, or six boxes for $2.50 (they are never sold in bulk or by the 100), by addressing Dr. Williams' Medicine Company, Schenectady, N. Y.

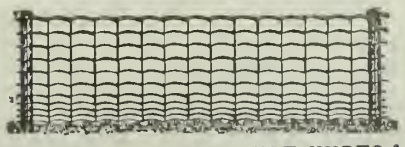
Horse Owners! Try GOMBAULT'S Caustic Balsam

A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from **Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

Every bottle sold is warranted to give satisfaction Price **$1.50** per bottle. Sold by druggists, or sent by express, **charges paid**, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland O.



IT'S UNCERTAINTY THAT HURTS!

That's what the business men claim, and why not consider that feature when figuring on the fence problem. With an unproved device, you are never sure that your stock and crops are safe. We are selling **Page** to men who have tested it over ten years. They're not experimenting.

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Patent Centrifugal, Steam and Power Pumping Machinery, Simplest, Cheapest and Best. Orchard Trucks, Grape Crushers, Wine Presses, Wine Filters.

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It will pay you to get our prices.

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115-117 First St., San Francisco.

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Actual Potash.

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Our pamphlets are not advertising circulars booming special fertilizers, but are practical works, containing latest researches on the subject of fertilization, and are really helpful to farmers. They are sent free for the asking.

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Is the Republican standard bearer and the champion for protection. If he is elected we hope it be for the country's welfare. This, however, is a matter of conjecture; but it is a *dead sure thing* that if you buy your supplies through the Home Library and Supply Association you will save from 10 to 40 per cent. We furnish everything at deeply cut prices: but some of our specialties are Buggies, Bicycles, Barb Wire, Clothing, Furniture, Groceries, Musical Instruments, Shoes, Sewing Machines, Watches, etc.

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Our famous Success horse TREAD POWER is a Marvel. Adapted to all uses requiring a moderate power.

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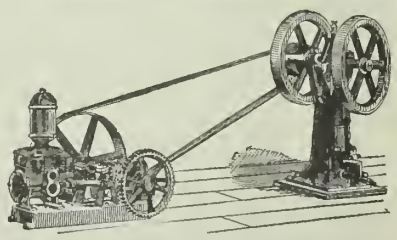

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Simplest and Cheapest Gasoline Engine Made.

It requires no engineer. All expense stops when Engine stops. Ready on five minutes' notice. No Ashes, Smoke, or Dirt. Engine can be left alone while running for hours. It is designed for running Pumps, Printing Presses, Blowers, Grinding Mills, Fanning Mills, Machinery of all kinds—in fact, for General Farm Work and Other Purposes.

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"Greenbank" Powdered Caustic Soda and Pure Potash.

T. W. JACKSON & CO.
Sole Agents. - - No. 226 Market Street
SAN FRANCISCO, CAL.

THE HOME CIRCLE.

Driving Home the Cows.

He drops the bars down, one by one, and lets
the cows pass through,
Then follows them along the lane as he once
used to do;
And memory whispers as he climbs the grassy
meadow slope
Of happy days when, long ago, a boy so full
of hope
Used often here to lie and dream upon the
hill's soft crest
When tired of play, his head upon its daisy-
flecked breast,
Till leaping dog awakened him with loud and
sharp bow-wows,
To warn him that the time had come for driv-
ing home the cows.

And now he splashes in the brook that flows
from yonder spring,
It ripples, murmurs, bubbles like a bright and
living thing;
Upon its sparkling current here he used to
sail his boats,
And once again he throws a chip, to watch it
as it floats;
Whirling, dancing, jumping, far away a-down
it goes,
Up and down and here and there, with all the
changing flows,
Till out of sight it whirls at last, down where
the channel bows,
As once he did long years ago while driving
home the cows.

And all day long in the meadow, while raking
the fresh cut hay,
The brightest fancies come to him with the
brightness of the day,
And every cricket chirping and the lark that
soars and sings,
The butterfly that dazzles with its brightly
painted wings,
All seem to be companions as he works and
works away,
Till the sun sinks low and lower with the
passing of the day,
And a voice calls through the shadows and
the slowly gathering gloom:
"John, my dear, let down the bars; the cows
are coming home."

—Walter S. Stranahan in Chicago Record.

"Hanner."

The summer of 1895 found me in a little village among the Ossipee hills. There I met Hannah.

I shall never forget Hannah's face. Trouble had left its indelible mark on it, yet it was full of peculiar peace and happiness.

Could I ever paint that expression! It became my dream, and that I might gain all possible help, I resolved to learn her history.

I felt sure the old stage driver could answer my questions about her, so riding home with him from a distant village one evening, I opened the subject.

"Dow," said I, "I met a woman today, while I was rambling about, with such an uncommon face; I'd like to paint it."

"Aye!" said he, with a smile. "I know; it's Hanner!"

"Then, perhaps, you can tell me how she came by that look," I said.

"Wall, George," answered Dow, "Hanner's story can't be told ter every kin' er ears; but I reckon ez you ken hear it in the right spirit, an' git some good from it.

"There's tew picters in her face. Yer look at it in one way, an' yer see how sorrer had liked to er spiled it; an' then, all ter onct, yer kin see the love that brightens of it up, an' arter yer've sighted that, yer never think er t'other look agin.

"It's kin'er queer," he continued, "that jist as I start on this story we sh'd happen ter be in the only spot I know of, on this ere road, where yer ken see Hanner's shanty.

"Look up the mountain there—no, a leetle more to the right—can ye ketch sight of a road leadin' up the hill? Wall, I dunno ez it's strange ye can't, fur the trees dew beat all this summer, so thick an' leafy. But foller that old cart-road up a goodish bit, windin' an' twistin', an' all ter onct yer come to a kin' of clearin', an' there's the little old house."

"Is that where Hannah lives?" I asked, in surprise. "She don't look as if she could rough it in such a place as that."

"Oh, no! Hanner nowadays lives down t'other side the bridge, jist over inter Shirley," was Dow's answer.

"But the time I'm tellin' on, she lived up there alone with Allene—as purty a leetle posy ez ever bloomed in these parts.

"But I s'pose I'd ought ter go back somethin' like twenty year—yes, I guess 'twuz jist 'bout twenty years ago that Hanner come home from boardin' schule down ter Portland. She can't be mor'n forty, or trifle over, now."

"What!" exclaimed I.

"No," answered Dow. "Not much over forty. Yer see, Hanner's hed a purty tough experience on't, and its aged her.

"I don't s'pose she'd ever ha' gone down ter Portland, only her ma hed a great ambition fur her. Her pa wuz a good-meanin' kin' of a man, but merciful sakes, the way he let the purty farm his farther left him run all ter shucks wuz a pity! He never could stan' alone.

"His father kep' him a-rollin' whilst he lived, an' then Hanner's ma took a-holt on him; but all ter onct he fell over on his side, an' nobody couldn't help him then. Only the Almighty could start him goin' agin' an' he didn't seem ter think ez 'twuz worth while.

"That happened when Hanner wuz down ter Portland. She jist come home ter the fun'rel, an' then she was sent off agin to finish up her schulin'. She gradooated at last, very honerary; but she hadn't much mor'n gut settled before her ma up an' died.

"That made it bad fur Hanner—poor child—with no 'sperence nor nuthin'. But she kep' wonderful chirky, an' soon I diskivered she'd found someun down ter Portland ter look out fur her.

"Up ter see her comes a man, consid'ble older'n her; but I knew, by the way he looked 't her, an' by the way she looked 't him, they sot heaps by each other. So arter her ma wuz laid away, Hanner 'n' this man they steps roun' ter the minister's an' gut married.

"That night she stops me ez I wuz a-passin', an' calls me in, an' interdooces me to him. He told me ez he wuz mate on a vessel. His face wuz good an' kin', an' his manners wholesome. I liked him fust time I sot eyes on him. He hed a sort er protectin' way 'bout him, sech ez wimmen take ter.

"'Hanner,' sez I, 'yer know I'd a-married yer myself ef yer'd only said the word. 'Tain't enny er my fault.'

"'No, Dow,' she sez, sof'ly, kin'er blushin'.

"'Wall, then,' sez I, 'this man here ez yer've ben an' married knows I mus' be int'rested in yer, and that I'm glad ter see yer've gut someun to look arter yer.'

"All t' onct she busts out a-sobbin' ez ef her heart ud break.

"'I'm glad enough I've gut him, tew,' she sez. 'But, oh, Dow, he's gut ter leave me! His ship sails in a fortnight.'

"That kin'er staggered me, I tell yer, but I give her what leetle comfort I wuz able, and I promised Allen—that's her man—ez I'd look arter her all I could.

"'Hanner'n' I've been lookin' over the papers,' sez he, 'an' we fin' the farm's mortgaged clean up to its vally; but the mortgage ain't due fur a year, an' 'fore that time I'll be back ter pay for't, an' Hanner'n me'll settle down comfort'ble fur life.'

"She tried ter smile, but 'twuz er dretful sad kin' er a smile.

"Wall, Allen worked might-an'-mainful up ter the time er goin', ter leave everythin' 'bout the house 'ship-shape,' ez he said. I didn't see the partin' er them poor creeturs. Yer'd better believe ez I kep' clear er Hanner's house that day!

"But arter a while I gut ter steppin' roun' ter split her wood, an' dew enny leetle chores I could. Hanner chirked up bit by bit, an' arter her leetle gal come, yer never see a creetur so happy.

"'Allen'll be home soon,' she kep' a-sayin'. She sez it a hundred times ter me ef she says it onct. Nothin' else seemed ter be in her min', an' she told me ez she dreamed of him continooal; all sorts er pleasin' fancies and notions come ter her by night.

"When 'twuz mos' time for the ship ter be home, she acted more like a bobolink, crazed with thoughts er spring, than ennythin' I could think on.

"She sung all the blessed while, a-tendin' Allene, or a-doin' her housework. Yer see, she kin'er womanized her man's name, an' give it to her baby in the shape er Allene. Wall, I mus' say ez Hanner's joy kin'er frightened me. 'Twuz onnateral. But I wuzn't prepared no ways fur that white face, when I stepped in, one mornin'.

"'I've hed a dretful dream, Dow,' she sez ter me, with her hands clenched tight together. 'Do you think, Dow, ez dreams come true?'

"An' then she went on ter tell me ez how she dreamt she saw the Dolphin come sailin' up the harbor, all rigged in black, an' when she arst 'em who wuz dead they told her ez how 'twuz the mate.

"'Hanner,' sez I, 'git it outer yer head jist ez quick ez ever yer kin, an' think er them pleasant idees yer told me of onct.'

"'I'll try, Dow,' she said, but the smiles didn't play roun' her mouth no more, an' the bobolink's song wuzn't heard agin.

"That dream ha'nted her so, at last I lost heart, tew, an' it didn't s'prise neither of us when the Dolphin didn't come back on time, nor, at the last, when the owners writ Hanner ez how they'd gave up the ship fur lost.

"Jest at that time, to add to her trouble, the mortgage fell due. Ef I'd a had the money, I'd ha' offered it ter Hanner, but I doubt she wouldn't ha' took it anyhow. So she hed ter leave the house where she'd lived all her life, an' there wuz no place she could call hern but the leetle shanty I told ye of up the mounting. That wuz tew mis'able an affair fur ennybody to begrutch her.

"I tried my bes' tew hev Hanner come ter live ter our house, but nothin' nor nobody couldn't prevail on her. So we all set to an' boarded an' plastered the shanty, an' gut it purty comfort'ble, considerin', an' Hanner an' the leetle gal begun to housekeep there.

"In the summer time she got along fust-rate. I fixed her garding fur her, an' nobody roun' hed sech good luck ez Hanner on her sunny leetle slope. It didn't cost her nothin' ter git it ter market, for enny of the neighbors wuz glad ter take it ter Stamford fur her; so she made 'bout 'nough in summer ter keep her an' Allene through the winter."

"And could she live up there through all the cold weather?" I asked.

"E'enamost; all but jist a few weeks in the wust on't. Then she'd come down an' sew round 'mongst folks ter pay fur her board, fur Hanner wouldn't be beholden ter nobody.

"Waal, this kin' er work went on fur nigh 'bout ten year. Meanwhile I'd been stagin' it reg'lar.

"One day I brought up from Stamford only one passenger. He mentioned ez he didn't feel very well when he fust gut inter the stage, an' he didn't grow no better ez we come 'long. Fust he'd be cold, an' then he'd be burnin' up with fever. He breathed hard an' quick an' kep' moanin' with the pain in his head.

"Waal, yer may b'lieve, now, ez I did some powerful thinkin' durin' them three hours. We'd heard in our village ez how the small pox wuz a-ragin' in New York an' Bosting, till everybody up our way wuz sca't to hear the subject named. Before I gut home I'd made up my mind ez that's what ailed my passenger. He seemed, fur the mos' part, kin'er drowsy, an' I couldn't fin' out where he was boun' ter, nor nothin' so I wuz in a desprit fix.

"I wouldn't ha' minded fur myself, but how wuz I ter take him home ter Olive an' the children? An' I couldn't expect nobody else ter dew what I wuz not willin' ter dew myself.

"I wuz gittin' purty nigh the village, 'bout where the road turns off ter Hanner's shanty, when comin' 'long jest in the nick er time was Hanner herself. I told her my trouble; everybody tells their troubles ter Hanner—she was allers sympathizin' and comfortin', seein' so much trouble herself, yer know. An' what dew yer suppose that woman sez?

"'You drive jest ez quick ez yer ken up the mounting ter my house,' she sez, 'an' don' tell nobody in the village 'bout it, fur ef yer dew 'twill raise a dretful scare. I'll nuss the poor creetur, come what may.'

"But what if yer shid take in an' die, Hanner? sez I.

"She gives me one er them smiles er hern, chock full er tears, an' then sez, very soft, lookin' up ter the blue sky: 'Do yer think ez I sh' care very much of I did, Dow?'

"'Wall,' sez I, 'there's Allene.'

"Fur jest 'bout half a minute she looked anxious.

"'I'm willin' ter' leave her with God—an' you, Dow,' she sez. 'But don't let her come up the mounting, whatever yer dew.'

"Wall, the upshot of it wuz, I carried the man up in the old stage, whilst Hanner run ahead in a little foot-path ez she knowed of, never stoppin' even ter look at him. But it happened ez I gut there fust, so, knowin' there wuzn't no time to lose, I lay him on Hanner's bed, an' hollers out to her ez how I wuz a-goin' fur the doctor. She give me a nod, an' I rattled off purty good speed.

"Lord! When him an' me gut back ter the shanty, we saw a sight ez overcome our feelin's mighty quick, now I tell ye! There Hanner sot, a-holdin' er the man's han', an' a-lookin' inter his eyes, with hern a-shinin' like tew stars; an' a look on her face ez ef she'd gut square into heaven.

"Wall, I guess when she found' out ez 'twuz Allen she'd gut ez near heaven ez ennybody ken this side er Jordan.

"I stood there all a-trembliu'; I couldn't speak a word. An' Hanner, poor child, her lips moved, but they didn't let out a sound', an' she hel' one han' tight over her heart, ez ef she wuz a-holdin'er herself together.

"Doctors is more used to sech sights than stage-drivers, I cal'late; ennyhow, he come tew fust. After lookin' keerful at the man a minute, he gut up, an' sez he ter Hanner:

"'Hanner,' sez he, 'you're the bravest woman out! There ain't no other woman ez I know on ez hez gut the grit ter dew ez you've done, an' the Almighty's blessed yer, yer dear creetur, ez yer desarve.' But here he changed his tune, an' broke out a-larfin'.

"'I can't help it,' sez he, 'fur the man ain't gut the small-pox no more'n I hev!'

"Sech a load ez jumped off'n my heart, ye'd better believe! An' even Hanner! I heard her a-whisperin' 'Thank God!' But he was a mighty sick man, whether or no, an' I b'lieve nobody but Hanner could ha' brought him roun'.

"When we go over there ter-morrer er nex' day, yer jes' arst Allen ter tell yer 'bout his wreck, an' how he'd gave up all hopes er ever seein' home an' Hanner agin. He'll tell yer all 'bout it.

"He'd come home poorer'n he went away. But Hanner or no Hanner, *this* time the neighbors would dew ez they hed a min' ter. The man ez owned her old home only come up from Portland summers, now an' then, an' hearin' er Hanner's story, he sold it to us for mos' nothin'. I tell yer, 'twuz a great day fur us when Hanner came down from the mounting ter live 'mongst folks once more.

"Her face looked so heavenly, I couldn't think er nothin' but Moses, when he come down from the mount arter talkin' with God, an' wis' not ez his face wuz a shinin'. No more'd Hanner, an' the shine's never faded out. I doubt it can't be painted, my boy, but ef Hanner's willin' fur yer ter try, an' I think she will be, fur she never refuses nobody nothin' you'll make yer everlastin' fortin if yer only git half that look in a picter."

I thanked Dow heartily for his story.

Hannah sat for me very readily. I painted with my whole soul in the work, and the result has made me money and a name. Yet, as the old stage driver prophesied, I have never been fully able to catch that wondrous glow in Hannah's face.—Household.

The Habit of Being Ready.

You may call it what you like—presence of mind, a cool head, quick thinking or an instinct to do what is right the first time—the fact remains that it is a habit acquired by experience of being ready always to use one's muscles and brains at a moment's notice—the habit of being ready.

When you are on your wheel, and a tangle is ahead, what do you do? What is a natural thing to do? Get off and walk aside. When you are in a boat, and a flaw comes against the sail, what do you do? What is a reasonable thing to do? Let the sheet and sail go where the flaw cannot come against it. When you are slipping on the sidewalk, what do you do? Thrust the other foot under you or turn yourself on a pivot and come to the ground on the hands. What do you do when a man stops you for the purpose of robbing you or for one thing or another? Do the reasonable thing—walk up to him and show him that you are quite at your ease and that he is attacking the wrong person. What do you do in the room of a burning house? Do the reasonable thing—crawl on the floor, because smoke always rises, and you can breathe far better. If you must go through flames, pour water over yourself before starting. If the undertow in the surf catches you, and carries you out, do the reasonable thing—float; swimming is useless. By floating you will keep above water, and in a moment somebody will come in a boat. Year after year women and children drown within twenty yards of a hundred people. Why? Because the average unpracticed person is paralyzed quite long enough to allow the struggling to drown. Then every one does the right thing, and rushes for the lifeboat ten feet away—too late. So we might go on for a week. The particular case is unimportant. It suffices you not if you know what to do and do not have the power to do it. Acquire the habit of responsibility and prompt action by putting yourself in situations that require this; and when you have acquired the habit of being ready. you are pretty sure to do something that is reasonable in an emergency when it arises, even if you are not primed with all the knowledge of this particular case.—Harper's Bazar.

Curious Facts.

Germany has 19,476 postoffices, England 17,587 and France only 7346.

In Germany the men as well as the women wear wedding rings. When either dies the survivor wears both.

The oldest star route stage driver and United States mail carrier now performing active service is Uncle Ira Jennings of Bibb County, Ga. He was born July 15, 1815, at Danby, Tompkins Co. N. Y., six miles from Ithaca, on the Owego and Ithaca turnpike. Though he is eighty-one years of age he is robust and hearty, and travels 150 miles weekly in his buggy with mail.

A South American lady is quoted as saying that some time ago, in the absence of water, of which there was a great dearth at the time, she washed her face with some of the juice of a watermelon. The result was so soothing that she repeatedly washed her face in this manner, and her astonishment was great, a few days later on seeing that there was not a freckle left on her previously befreckled face.

A light that no attendant ever visits surmounts a beacon on Armish rock, in the Hebrides, Scotland. This remarkable light, which nightly shines for the benefit of fishermen far and near, is projected from a lighthouse on Lewis island, about 500 feet away, the rays being thrown on a mirror in the lantern of Armish rock, and by that being reflected to an arrangement of prisms that scatters them in the necessary directions.

A dog who had eaten up a farm and a set of buildings has been found in eastern Maine. This dog killed a neighbor's sheep. The neighbor offered to call it square if the dog was killed. The dog's master refused to agree to this, and a lawsuit came next. To pay the costs and damages assessed by the court the owner of the dog had to mortgage his farm for $100. The mortgage had a bigger appetite than the dog, and soon his farm was gone and the owner had to move away.

The bed on which Abraham Lincoln slept when a boy was after this fashion: The head and one side of the bedstead were formed by an angle of the log cabin itself. The bedpost, standing out in the room, was a single crotch cut from the forest. Laid upon this crotch were the ends of two hickory sticks, whose other extremities were mortised into the logs, the two sides of the cabins and the two rails embracing a quadrilateral space of the required dimensions. This was bridged by slats rived from the forest log. On this was placed a sack of dried leaves.

Gems of Thought.

Friends got without desert are apt to be lost without cause.

Every now and then a man's mind is stretched by a new idea or sensation, and never shrinks back to its former dimensions.—Oliver Wendell Holmes.

A soul occupied with great ideas best performs small duties; the divinest views of life penetrate most clearly into the meanest emergencies.—James Martineau.

Putting a buttercup to school will not graduate it a butterfly, even if it is a very good school Its only wholesome ambition will be to be as good as it can be as a buttercup.

Plutarch says very finely, that a man should not allow himself to hate even his enemies; because if you indulge this passion on some occasions, it will rise of itself in others.

It is an irritating, nay, more, a deeply saddening problem for a wise dyspeptic to ponder, the superabundance in this little world of ours of things cookable, and the extreme rarity of cooks.—Maarten Maartens.

We are ruined, not by what we really want, but by what we think we do; therefore, never go abroad in search of your wants. If they be real wants, they will come home in search of you; for he who buys what he does not want will soon want what he cannot buy.—Colton.

This was Emerson's advice to a daughter: "Finish every day, and be done with it. You have done what you could. Some blunders and absurdities no doubt crept in; forget them as soon as you can. To-morrow is a new day; begin it well and serenely, and with too high a spirit to be cumbered with your old nonsense. The day is all that is good and fair. It is too drear, with its hopes and invitations, to waste a moment on the yesterdays."

Historical.

Philadelphia was the first city to issue a directory, its first edition coming out in 1785.

"In God we trust" first appeared on the copper two-cent issue of 1864, and is the first use of the word "God" in any Government act.

The practice of the wife assuming the husband's name at marriage, according to Dr. Brewer, originated from a Roman custom, and became the common custom after the Roman occupation. Thus, Julia and Octavia, married to Pompey and Cicero, were called by the Romans Julia of Pompey and Octavia of Cicero, and in later times married women in most European countries signed their names in the same manner, but omitted the "of." Against this view, it may be mentioned that, during the sixteenth, and even at the beginning of the seventeenth century, the usage seems doubtful, since we find Catharine Parr so signing herself after she had been twice married, and we always hear of Lady Jane Grey (not Dudley), Arabella Stuart (not Seymour), etc. Some persons think that the custom originated from the Scriptural teaching that husband and wife are one. It was the rule so far back as Bracton (died 1268), and it was decided in the case Bon vs. Smith, in the reign of Elizabeth, that a woman by marriage loses her former name, and legally receives the name of her husband. Altogether, the custom's origin is involved in much obscurity.

Pleasantries.

Sentimental Young Lady—Ah! Professor, what would this old oak say if it could talk? Professor—It would say, "I am an elm."—Fliegende Blatter.

Dolly, discovering a crock mark on her hand, exclaimed: "When I touched the stove lid I knew it was black; but I didn't know it was contagious."—Exchange.

Ethel—Mamma, what makes the lady dress all in black? Mamma—Because she's a sister of charity, dear. Ethel—Is charity dead, then?—Princeton Tiger.

One exceedingly warm day in July a neighbor met an old man and remarked that it was very hot. "Yes," said Joe, "if it wasn't for one thing I should say we were goin' to have a thaw." "What is that?" inquired the friend. "There's nothing froze," said Joe.—Tit-Bits.

Jokes upon members of the Harvard faculty are usually so thoroughly good-natured that the victim can seldom do more than grin and bear it gracefully. So, when Dr. Everett saw a printed notice that he was to speak on the devil, as one of a series of talks on men who had influenced him, he simply smiled, and scored one more mark upon his tally against a particularly roguish student.—Boston Transcript.

Popular Science.

A flowering plant is said to abstract from the soil two hundred times its own weight in water.

The physiologists say that the right side of the brain is of more importance to organic life than the left.

The north magnetic pole is now probably near the southeast angle of the Arctic peninsula known as Boothia Felix; the south magnetic pole is south of Australia, seventeen degrees and twenty-five minutes from the geographical pole.

The nearest approach of Mars to the sun is 129,500,000 miles; his mean distance 141,500,000; miles his greatest distance 154,500,000. Our mean distance from the sun is about 93,000,000 miles. The nearest approach of the two planets to each other is 35,050,000 miles.

DOMESTIC ECONOMY.

Kitchen Lore.

Deviled Ham Loaf.—Take two spoonfuls of cracker or bread crumbs, a quarter of a pound of deviled ham, two cups of milk, using a portion to moisten the ham. Stir in two eggs, add salt to taste, put into a buttered bread pan and bake one hour in a moderate oven. Serve cold, cut in thin slices and garnish with parsley.

Soft Sauce.—To make a good soft sauce, cream together a teacupful of pulverized sugar and half a cupful of fresh butter, add a well-beaten egg and the juice and grated peel of a lemon. Have ready in a double saucepan some boiling water which has been thickened with a scant teaspoonful of cornstarch; when thoroughly boiled add to this your other ingredients, and stir slowly until the sauce is very hot. Add a little grated nutmeg and it will be ready to serve.

Milk Lemonade.—Milk lemonade is a favorite English drink. Two dozen fresh lemons are peeled as thin as possible, first rubbing lumps of sugar over the skin to absorb the essence. Put a half-dozen of the rinds into three quarts of hot but not boiling water, and let it stand until cool; then strain. Squeeze the juice from the lemons, add to the water from the rinds, together with a pound and a half of sugar. Add again three quarts of boiling milk, mix well and strain through a cloth bag. Let it stand a day before using.

Quince Butter.—Pare and core the fruit and mince it very fine; cover with water and cook until tender. At the same time, in another kettle, simmer the cores and skins in sufficient water to keep them from burning. Strain off the liquid resulting from the boiling and add it to the quince pulp, with one-half pound of sugar for each pound of fruit. Boil the whole, stirring continually, until it is smooth and of a firm consistency. Then put in jars, cover close and keep in a dry place.

Quince and Apple Preserves.—Make a syrup by boiling the cores and parings in water, using just enough to cover them. Pare, core and quarter the apples; put the quinces in the syrup after it has been strained. Take the quinces out after simmering for a short time, drop in the apples, and let them boil for an hour and a half, or until the mixture looks clear and red. Put the apples and quinces in a jar in alternate layers, pour over them the boiling syrup, and seal.

Hints to Housekeepers.

The best remedy against ants is cayenne pepper. Spread it on the shelves of the store closet under the paper that covers them.

The best way to clean a Brussels carpet is to lay it face down on the grass, and beat as it lies there, then by the corners drag it over clean grass to brush off the loose dust.

When flavoring has been forgotten in a pudding or cake, the fault may be remedied by rubbing the desired extract over the outside of the cake as soon as it is taken from the oven.

When polishing mirrors, windows or picture glass with whitening, the best way to use it is to have it in muslin bags. Dampen the glass lightly, then rub with the bag and polish off with a crumpled newspaper.

A solution of vinegar and salt is the best thing to clean polished iron as well as copper. Heat the salt and vinegar in the frying pan or other dish. Rub off the stains, then wash it off and and scour it with sand soap.

The best dress to wear in the kitchen in hot weather is a comfortable loose-belted gown of cotton turned back at the throat and made with sleeves that reach only a short distance below the elbow and need not be rolled up.

An excellent substitute for potatoes at a dinner is rice, cooked in milk and well salted, put into a dish and browned in the oven. Make a hot lemon sauce and pour it over the rice when it is taken from the oven and just before the dish is sent to the table.

To keep the varnished wood of furniture looking fresh and bright, it should be rubbed thoroughly with oil from time to time. Only a little oil should be used, and that carefully rubbed in with a flannel until it seems to have all gone; otherwise it will catch the dust.

Stained borders of floors will require doing over once a year if worn places are not to become noticeable. The stain and varnish may be bought and applied separately, or mixed together and applied at once. The latter is, of course, the readiest method, but the former is perhaps the more lasting.

A remedy against creaking soles is to allow the soles to stand over night on a platter containing a small quantity of olive oil, so that they will become saturated with it. This will protect them against dampness; and if they are carefully wiped off on the sole, they will not grease carpets and rugs, though this treatment is intended especially for walking shoes.

Stains on the fingers from handling potatoes or trimming vegetables or fruits may be readily removed by thoroughly rubbing with an overripe tomato; if a little rotten, it acts quicker. A stem of rhubarb or pie plant is equally effectual, and may be had from early spring until late in the fall. Either will prove better than soap or anything else, and cheaper than oxalic acid or a rubber brush.

School Frock, Street Gonw and Attractive Coat.

FOR SMALL MAIDENS.
1006—Elfin Frock.
Sizes for 6 and 8 years.

A suitable model for either school or afteruoon frocks. Cashmeres, challie, serge and all light-weight wools are appropriate fabrics, and dressing gowns can be made of India silks or white cashmere. The skirt is gored to fit trimly around the hips and has some fullness in the back, which can be gathered or plaited. Tan-colored cashmere and brown velvet are used for the model frock. Narrow braid and pearl buttons form an attractive finish for the front of the waist and sleeves.

A special illustration and full directions about the patterns will be found on the envelope in which it is enclosed.

A FALL TRAVELING OR STREET GOWN.
955—Keyser Coat.
Sizes for 34, 36, 38 and 40 Inches Bust Measure.

All of the smooth-surfaced cloths, coverts and whipcords, as well as serges and mohairs, are liked for these smart tailor gowns, which are considered the correct dress for traveling or general street wear. The coat, the "Keyser," is fitted with the usual seams in the back, and single darts in the fronts. Dark blue serge is the fabric chosen for this model. The coat is lined with figured taffeta silk, and finished on the edges with rows of stitching. The revers are ornamented with tiny gilt buttons, and the collar is faced with velvet. A blouse of cream-white satin is worn with this coat, and a stock collar of ribbon. This coat may be worn with any style of waist or basque, or with fancy fronts and vests.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

957—Inglehart Skirt.
Sizes—Medium and Large.

A popular design, having seven gored breadths and measuring about six yards around the bottom. It fits trimly around the waist, but additional fullness is added below the hips in plaits, on the side-seams. The fullness in the back is laid in side-plaits turned toward the center. The popular finish for the bottom of the skirt is a 10 or 12-inch facing of haircloth, crinoline or canvas, and velvcteen binding. Silk, woolen or cotton fabrics may be used for the model, and it may be worn with any style of coat, basque or waist.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

Fashion Notes.

As the fall season advances velvet ribbon iu black and pretty autumn foliage colors will be in great use both with dressmakers and milliners. Every width manufactured will be utilized, and the ribbon will decorate gowns and waists both for day and evening wear.

Among the novelties in evening sleeves are those of Victoria silk trimmed with chiffon frills. The lower portion flares out in gauntlet cuffs, is then tight fitting to the armhole, and has a puff at the top so draped in the center that it reveals the entire upper portion of the coat sleeve. Another model has a moderately full puff of one material tied just above the elbow with a band of satin ribbon. This band divides the large puff into two smaller ones, the upper one on the shoulder being the larger puff. At the waist is a twist of ribbon, a bow, and, finally, a frill of rich lace. A sleeve with a close forearm has a wrist frill of accordion-plaited mousseline de soie, and is topped off at the shoulder with a puff daintily finished with many rows of fine French shirring, in 1830 style. The puff is shirred again above the elbow, but the shirring is turned under, with no frill left as a finish.

Broadcloth or ladies' cloth is always in fashion when braiding is revived, and braiding is very largely to be used Even on velvet and camel's hair serges there are rows of braiding, while the smooth cloths are fairly covered with it. From $1.50 upwards ladies' cloth can be bought, which is wide, and if well sponged, is a most satisfactory material. But in buying any of these smooth cloths it is well not to choose too heavy a weight, particularly if the skirt is to be braided. Weight does not mean warmth in cloth or woolen materials.

An autumn round waist suitable for plain or fancy cloth or silk is made over a closely fitted lining, the back showing no seams, with small overlapping plaits at the waist. The front is shirred at the waist line with a box plait at the center that does not droop at all at the belt, with five narrow plaits at each side, forming a yoke effect. The sleeves are plaited into armholes, and are moderately full, but with no stiff interlining. The decoration consists of a fitted pointed ceinture boned on the sides, and at the front and back of the pointed gridle a high collar with velvet points flaring out from the straight band. The box plait down the front has the upper portion covered with a pointed velvet tab. Small gold or silver buttons are used to finish the velvet decorations. The skirt is cut with seven gores narrower in outline than those of seasons past but with a slight flare still left in the lower half.

On new bodices for next season short, trim front effects simulating any of the bolero, Eton, Zouave or Russian jackets will be in great favor These jaunty finishings and dressy effects are never abandoned in Paris, aud the entire Eton jackets with added satin ceinture has raged abroad the past summer, and will continue in vogue the autumn season through, but in many new gowns this tiny jacket appears only in front, aud is usually of a contrasting material —velvet, silk, fancy satin, or plain cloth if the gown is figured, and in fancy waves if the dress is of plain texture. These front pieces may be shaped round, square, or pointed, be high or low in the neck above the bodice proper; but no matter how shaped, they are designed to give the idea of a jacket front over the full or fitted bodice.

In coats and tight-fitting waists the smooth cloths are more becoming than the rough ones for they seem to fit the figure better, probably on account of being more closely woven. But this year it is not safe to say arbitrarily that either one is the only possible material. All the different shades of blue, brown, green and gray, besides black, are fashionable, but black leads all in the smooth cloths. In the mixed cloth there is a pepper-and-salt combination which is immensely fashionable, but not becoming to everybody, as it really has a gray shade which needs a pink and white complexion to bear well. This last material for hard wear is simply unsurpassable, and is being used by a great many women for both bicycling and shopping, made in one jacket waist with two skirts, one short and one long—really two gowns out of one.

A charmingly dainty bodice of pale pink organdie, made over lining of pink satine, has a yoke with tucks fully an inch wide, and smart bishop sleeves tucked across the top, each tuck brought out by a row of the Honiton braid. The sleeves reach just below the elbow and are finished with a wide band, over which is laid the broad pink taffeta ribbon, also laid in tucks and ended in a full bow.

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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Sept. 23, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Tuesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	104,591	1,488,147	835,015
Wheat, ctls	625,772	2,769,871	1,929 273
Barley, ctls	136,502	1,835,914	907,956
Oats, ctls	18,136	110,065	164 558
Corn, ctls	2,580	35,874	17,346
Rye, ctls	260	9,626	8,692
Beans, sks	11,275	69,350	35,960
Potatoes, sks	23,930	241,150	245,098
Onions, sks	4,586	39,629	33,294
Hay, tons	4,939	49,124	48,011
Wool, bales	665	11,251	16,448
Hops, bales	246	981	1,094

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	5,908	1,176,240	538,603
Wheat, ctls	821,794	2,728,420	2,080,018
Barley, ctls	34,732	1,158,906	428,956
Oats, ctls	.....	6,100	4,716
Corn, ctls	60	3,841	4,788
Beans, sks	357	53,871	42,869
Hay, bales	630	7,701	7,677
Wool, lbs	.....	3,130,112	5,544,000
Hops, lbs	50,639	241,755	250,540
Honey, cases	500	736	2,338
Potatoes, pkgs	129	21,949	29,154

Grain Freights and Charters.

With the spot supply of deep-sea ships on the disengaged list reduced to very small proportions, the freight market has been ruling tolerably firm. During the greater part of the current week only one ship, suitable for wheat, has been available for immediate loading, and that vessel went under charter yesterday. There are a score or more of ships and steamers for the grain trade, however, which are on the way and will be due inside thirty days. Market for grain charters is quotable at £1 10s to £1 11s 3d for iron ships to Cork for orders, usual options, and owners of vessels about due are in most instances asking an advance on these figures.

Charters.

German bark Schiller, 1227 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 10s net if wheat and barley; £1 11s 3d net chartered prior to arrival.

British ship Forest Hall, 1999 tons, wheat to Cork, U. K., Havre, Antwerp or Dunkirk, £1 7s 6d; direct port, £1 6s 3d—chartered prior to arrival.

British ship Dominion, 2328 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d; direct port, £1 6s 3d—chartered prior to arrival.

British ship Royal Forth, 2988 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d; direct port, £1 6s 3d—chartered prior to arrival.

Italian bark Esemplare, 1006 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 8s 9d, net; option of Sydney, £1 2s 6d, or Cape Town, £1 5s—chartered prior to arrival.

British ship Wavertree, 2118 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 11s 3d, net.

British ship Dimsdale, 1779 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 10s; direct port, £1 8s 9d—chartered prior to arrival.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive.
1896	59,012	7,141	282,905
1895	84,236	18,647	310,331

Flour.

There is a better tone to the flour market, owing to the advanced figures current for wheat. Holders of flour are either contending for higher prices or are not inclined to sell freely at the old figures. Unless wheat values meet with a decided relapse, and there is nothing now to warrant anticipating the same, it will only be a matter of a short time when flour must rule higher.

Superfine, lower grades	$2 25@2 35
Superfine, good to choice	2 45@2 60
Country grades, extras	2 90@3 25
Choice and extra choice	3 25@3 50
Fancy brands, jobbing	3 50@3 75
Oregon, Bakers' extra	2 85@3 10
Walla Walla, Bakers' extra	2 85@3 10

Wheat.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	4s 11d@5s 1d.	5s 8½d@5s 9½d.
Freight rates,	—@24s.	30@31¼s.
Local market,	$0.90@91¼	$1.01¼@1.05

The prices above are for spot lots of standard No. 1 California in Liverpool, and for good to choice shipping in this city.

The improved condition of the wheat market, noted in last review, continued into the current week, with additional hardening in values, both in the speculative field and for actual offerings by sample. The foreign demand has been quite brisk, showing a shortage in Europe, with spot supplies worked down to small volume, and a desire on the part of foreign dealers to replenish as speedily as possible. In five days, from the the 12th to the 17th inclusive, omitting Sunday, thirteen ships were cleared from this port with grain cargoes, the clearances in question footing up over 40,000 tons of wheat, with a valuation of $829,000. This is the liveliest business experienced here in the export grain trade for a long time. Of course, it would not be reasonable to expect a very lengthly continuance of shipments at above rates, as supplies would not admit of it, even were the demand to remain at the recent high pressure gauge, which is not likely. Still, the outlook is more encouraging for the wheat-producing interest than at any previous date in the past two years. It is to be hoped that prices will continue to harden. There is certainly room for great improvement. The speculative market Monday opened lower, but closed at a fractional advance over best figures of previous weeks. Yesterday the market was excited and higher. Chicago advanced about 2c per bushel, and the condition here was correspondingly strong.

California Milling, old	$1 02½@1 07½
Cal. No. 1 shipping, alongside	1 00 @1 03¾
Oregon Valley	1 00 @1 05
Walla Walla Blue Stem	92½@1 05
Walla Walla Club	90 @1 00

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, $1.02½c@$1.07⅝.

May, 1897, delivery, $1.07½@1.11¼.

Wednesday, at regular noon session of Call Board, December wheat sold at $1.06½@1.07⅝; May, $1.10⅜@1.11¼.

Barley.

There have been further heavy shipments of this cereal since last review. A tramp steamer clearing the past week for St. Vincent for orders, took 113,431 centals barley, with a valuation of $104,300. This is the largest cargo of barley ever cleared from this port, and it is tolerably safe to assume is without a parallel from any other port in the United States. In no previous season have exports of barley been so heavy for corresponding time as during the past three months. No very large quantities of desirable shipping grades are offering at present, and holders of the same are in most instances contending for somewhat better rates than have been lately prevailing. Stiffer freights are, however, operating against materially improved figures being realized. Feed descriptions were in only moderate request on local account, and market for other than very best qualities was lacking in firmness. Call Board values averaged a little higher than preceding week, and at the close touched the highest point established since last review.

Feed, No. 1 to choice	63¾@66¼
Feed, fair to good	60 @62½
Brewing, No. 1 to choice new	72½@77½
Chevalier, No. 1 to choice	85 @95
Chevalier, No. 2	60 @75

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, 68¼@70¼c; May, 1897, delivery, ——@——c.

Wednesday at regular noon session of the Call Board, December feed sold at 70@70¼c.

Oats.

Supplies in the hands of local dealers have been increased to some extent by recent arrivals of new crop oats from Washington and Oregon, as well as fairly liberal receipts from the oat-producing sections of this State. The aggregate of local stocks, however, is not heavy, and is not likely to be in the near future, with the crop on this coast this season considerably below the average. The market is moderately firm at the quotations, but with other feed cereals materially cheaper, the demand for oats at full current rates is naturally limited.

White Oats, fancy feed	92½@ 95
White, good to choice	85 @ 90
White, poor to fair	77½@ 82½
Gray, common to choice	82½@ 90
Milling	87½@ 92½
Surprise, good to choice	95 @1 02½

Corn.

Market shows no appreciable change for the better. Large White is not being offered so freely as a few weeks ago, but to effect free sales at this date no radical advance on previous low figures could be realized. It is not probable, however, that values will very long remain at the existing low range. Yellow corn is in fair supply, and market for same is lacking in strength. Offerings of mixed Yellow from Nebraska are interfering with the advantageous sale of the home article.

Large White, good to choice	75 @ 77½
Large Yellow	85 @ 87½
Small Yellow	85 @ 87½

Rye.

A little steadier feeling is reported in the market for this article, without any evidence of much business doing.

Good to choice, old	65 @ 67½
Good to choice, new	62½@ 65

Buckwheat.

The same inactivity as previously noted is being experienced. There is seldom any noteworthy competition between buyers here for this product.

Good to choice	90 @ 95

Beans.

Advices by mail give the following New York resume of the Eastern bean market, prices quoted therein being per bushel of 60 pounds:

Influenced largely by the very strong interior advices, sellers have pushed prices upwards here on some varieties, and have had fairly good control of the market for all sorts. Arrivals have been pretty good for the season of year, but exporters have bought steadily and there is slight improvement in the home demand. Holdings here have been reduced of late, and, though interior dealers are carrying moderate stocks of old beans, there is quite general belief that the old goods will retain the trade later than usual, because of fine quality. The new crop will not be hurried forward; it is much less in quantity than last year and the quality is very uncertain. Marrow advanced to $1.25 before the middle of the week, and have since held firm at that, with an effort to get more for extra large barrels for export. Medium have remained very quiet at $1 05. Some receivers have tried to get a little more money for choice Pea, but there is no difficulty in buying best goods at $1.05. Exporters have practically cleared the market of White Kidney and the feeling is now firm at $1.30. Red Kidney jumped quickly to $1.20, then to $1 25, and have ruled steady at that for the last few days. Yellow Eye in very small stock and firm. Not much call for Turtle Soup, but only a few in first hands. Lima are 5@10c lower and very dull; difficult to name a figure at which any quantity of stock could be moved. All the recent arrivals of California Small White and Lady Washington have gone into store.

Some minor shipments have been lately made via Panama for Eastern points, and an occasional ten or fifteen-ton lot is dispatched overland for some point beyond the Rockies, but taking all the trading into consideration does not admit of the market being termed active. Local business is principally in Large Whites or Lady Washingtons, which are going at extremely low figures. Limas are still inclining against sellers, with stocks and offerings heavy, as compared with requirements. Most colored beans are being rather steadily held, but business doing in them is of a light order. At the close Large Whites were more firmly held.

Pea, fair to good, 100 lbs	$1 10 @1 25
Small White, good to choice	90 @1 05
Lady Washington	90 @1 05
Butter, small	1 10 @1 25
Pinks	75 @ 85
Bayos, good to choice	1 00 @1 15
Reds	1 20 @1 30
Red Kidneys	1 25 @1 50
Limas, good to choice	1 60 @1 75
Black-eye Beans	1 00 @1 10

Dried Peas.

Scarcely anything doing in either variety, and values are in consequence largely nominal.

Green Peas, California	$1 15 @1 30
Niles Peas	1 20 @——

Wool.

This market is showing more life than for several months past. Several scouring mills which had been closed down resumed operations this week. The market is moderately firm, but at no better prices than were current before the recent stringency in money matters. Considerable business is reported in Eastern centers, but transactions both there and here have been largely of a speculative character, buyers taking chances on the future. There is no certainity that the firmer tone prevailing will prove permanent. Two or three previous spurts, even more pronounced than the present movement, and, based on anticipations, have been experienced since wool has been in the dumps.

SPRING.

Humboldt and Mendocino	9 @11
Northern California free	— @—
Northern defective	5 @ 6
San Joaquin Foothill, good to choice	— @—
San Joaquin, 12 months	4 @ 6½
San Joaquin and Southern, 6 months	4 @ 6
Nevada, as to condition	7 @ 9
Oregon Valley, select	9 @10½
Oregon Valley, low grade	8 @ 9½

FALL.

San Joaquin	3½@ 5

Hops.

The following review of the hop market in the East is from a New York circular of acknowledged reliability:

Business does not improve to any appreciable extent, and the very small volume of trade keeps the market more or less nominal. We have rarely if ever seen so little indifference toward the new hops at this season of year. The samples shown thus far are mostly of green, immature, thin hops and are very unsatisfactory. Choice quality is the exception. It is hoped that the late pickings will be better, and dealers are waiting for the later goods. There is reason to believe that a really fine growth would bring about 9½@10c, but most lots if sold now would go considerably lower. In 1895 hops there is practically nothing doing and a little pressure to sell some lots has weakened the position slightly. Brewers could not buy the choicest parcels on usual terms much if any less than 8c, but the same quality is unsalable on the market at over 7@7½c, if indeed any buyers could be found at that. Lower grades range downward about as quoted, though all figures must be considered largely nominal. In many sections of the State picking is now about finished, and so far as we can hear there is no reason to change late estimates. Some sales of early pickings of the main crop are reported at 7@8c, and some growers ask more. Advices from the Pacific coast still indicate a yield of about 100,000 bales, with quality very good.

This commodity is practically without friends in this center at present among either wholesalers, jobbers or consumers. There is no evidence of any contracting or inquiries for forward deliveries at any figure. Growers seeking financial aid find it about impossible to obtain advances to pay for picking and curing. Dealers are in many instances still heavily loaded with old hops, and until they get out of the same, they will not care to bother much with new stock.

Fair to choice, 1895 crop	2 @ 4

Hay and Straw.

There has been some decrease in receipts of hay as compared with a week or two preceding, but the quantity offering is still liberal and ahead of immediate and positive needs. About the best that can be said of the market is that it is not in quite in such demoralized condition as at date of last review. Straw was in sufficient supply to keep prices at former low range.

NEW HAY.

Wheat	5 00@ 9 50
Wheat and Oat	5 00@ 7 50
Oat	5 00@ 7 00
Barley	5 00@ 7 50
Clover	5 00@ 7 00
Stock Hay	4 00@ 5 00
Alfalfa, first cutting	4 00@ 5 00
Alfalfa, second cutting	5 50@ 6 50
Compressed	6 00@ 9 00
Straw, ℔ bale	25@ 35

Millstuffs.

Bran was in increased supply, but prices did not decline. Middlings were in rather light stock. Market for other millstuffs remained much the same as previously noted.

Bran, ℔ ton	11 00@13 00
Middlings	14 00@16 50
Barley, Rolled	14 50@14 50
Cornmeal	19 50@20 00
Cracked Corn	20 50@— —

Seeds.

A shipment of about 300 sacks mustard seed was forwarded via Panama steamer the past week for New York. Desirable qualities of both yellow and brown are being quite steadily held, but for strictly choice brown the market is more especially against the buying interest. Flaxseed continues low, and the prospect is not encouraging for any speedy recovery in values.

	Per ctl.
Mustard, Yellow	1 50@1 75
Mustard, Trieste Seed	2 60@2 75
Mustard, Wild Brown	1 75@2 25
Flax	1 25@1 30
	Per lb.
Canary	2½@2¾
Rape	2 @2½
Hemp	3¼@3½
Alfalfa, Utah	6½@ 7

Bags and Bagging.

Little doing in bags of any description, and market for most kinds is easy in tone. On grain bags, however, the indications are that prices will rule firmer next season, owing to the higher figures prevailing for jute in India

Dried Fruit
HIGHER AND WANTED.

Parties having Dried Fruit or Nuts for sale will find it decidedly to their advantage to ship the same to us, or send us samples by mail, before disposing of it elsewhere. We always guarantee the highest market prices. Quick sales and prompt cash returns made for all produce entrusted to our care. Liberal advances made on any size shipments of produce. Consignments and correspondence solicited.

W. C. PRICE & CO.,
425 FRONT STREET, San Francisco, Cal.

The prices now asked by the Calcutta mills will not admit of bags being laid down for next season at the low quotations current on spot stock.

Grain bags, 22x36, spot	4¼@ 4½
Wool sacks, 4 lb	28 @—
Wool sacks, 3½ lb	26 @—
Gunnies	9 @—
Bean bags	4 @ 4¼
Fruit sacks, cotton	5½@ 7½

Hides, Pelts and Tallow.

Market for hides remains steady at the advanced figures last quoted. Values for pelts and tallow are without appreciable change.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	6½@—	5½@—
Medium Steers, 48 to 56 lbs	5½@ 6	4½@ 5
Light Steers, under 48 lbs	4 @ 4½	3½@ 4
Heavy Cow Hides, over 50 lbs	5 @—	4 @ 4½
Light Cow Hides, under 50 lbs	4 @ 4½	3½@ 4
Wet Salted Kip	— @ 5	— @ 4
Wet Salted Veal	5 @ 6	4½@ 5
Wet Salted Calf	6 @ 7	5½@ 6
Dry Hides, round lots, 7½@9c	9 @10	7 @ 7½
Dry Kip and Veal, 11 to 16 lbs	8 @—	6 @ 7
Dry Calf, under 4 lbs	— @15	— @10

Horse Hides, large	75@1 00
Horse Hides, medium	50@ 75
Horse Hides, small	25@ 50
Colts' Hides	—@ 25
Pelts, long wool, per skin	50 @60
Pelts, medium, per skin	40 @50
Pelts, short wool, per skin	20 @35
Pelts, shearling, per skin	10 @15
Deer Skins, best summer	20 @25
Deer Skins, good medium	15 @20
Deer Skins, thin winter	7 @ 9
Elk Hides	8 @ 9
Tallow, good quality	2½@—
Tallow, No. 2	2 @—
Goat Skins, perfect	20 @35
Goat Skins, damaged	10 @20
Kid Skins	5 @—

Honey.

Not much new crop honey on market, and not likely to be the current season. At the rates prevailing, however, the demand is somewhat limited and almost wholly local. Stocks of 1895 crop in the hands of the wholesale and jobbing trade are almost exhausted. Most of the extracted of this year's yield has been forwarded East from the interior.

White Comb, 1-lb frames	10 @—
Amber Comb	7½@ 9
Extracted, White Liquid	5 @ 5½
Extracted, Light Amber	4½@ 4¾
Amber Colored and Candied	3¾@ 4
Dark Tule	2¾@ 3

Beeswax.

No change to note in values. For choice to select the market is moderately firm at the prevailing rates.

Fair to choice, ₱ lb	23@26

Live Stock and Meats.

The hog market is showing much the same weak condition as previously noted. Small fat hogs are now in poor request and bring less than medium or large. They used to command a premium on account of the Chinatown trade, for immediate use as fresh pork, but that demand has fallen off. Packers have little or no use for small hogs. Beef and mutton markets have continued in virtually the same groove as previously noted.

Beef, 1st quality, dressed, net ₱ lb	4½@ 5
Beef, 2d quality	4 @ 4½
Beef, 3d quality	3½@—
Mutton—ewes, 4@4½c; wethers	4½@ 5
Hogs, hard grain fed, medium size, fat	2¾@—
Hogs, large hard	2½@ 2⅝
Hogs, soft and feeders	— @—
Hogs, country dressed	4 @—
Veal, small, ₱ lb	5 @ 6
Lamb, spring, ₱ lb	5 @ 5½

Poultry.

Large and fat poultry, more particularly large young fowls in fine condition, were in good request and were salable at better figures than were justified as regular quotations. Most of the poultry arriving is small, and much of it is too skinny to be sought after. The range of values noted below is to cover the ordinary run of offerings. While market for common qualities was dragging and weak, strictly choice stock was wanted at an advance in quotations.

Turkeys, live hens, ₱ lb	12@ 13
Turkeys, live gobblers	13@ 14
Turkeys, large young	15@ 17
Hens, Cal., ₱ doz	4 00@5 00
Roosters, old	4 00@4 50
Roosters, young, (full-grown)	4 00@4 50
Fryers	2 50@3 00
Broilers, large	2 25@2 75
Broilers, small	1 75@2 25
Ducks, young, ₱ doz	3 50@5 00
Ducks, old	3 00@4 00
Geese, ₱ pair	1 00@1 25
Goslings, ₱ pair	1 25@1 50
Pigeons, Old, ₱ doz	1 50@1 75
Pigeons, Young	1 75@ —

Butter.

The weak condition of the market for fresh butter, noted in last issue, has been followed by further depression in values. This was to have been anticipated, and was caused by crowding prices upward to such an extent as to drive trade almost wholly off of fresh product. To regain this trade will be a difficult matter in any other way than by putting prices for fresh down almost on a level with values current for packed stock. Market for packed descriptions was less active than for a week or two preceding, and was easy in tone at unchanged quotations.

Creamery extras, ₱ lb	21 @22
Creamery firsts	20 @21
Creamery seconds	19 @20
Dairy select	20 @—
Dairy seconds	16 @18
Dairy, soft and weedy	— @—
Mixed store	11 @13
Creamery in tubs	15 @16
Pickled roll	15 @16
Dairy in tubs	14 @15
Firkin, Cal., choice to select	14 @15
Firkin, common to fair	11 @12½

Cheese.

This market continues in all essential respects about as last noted. Mild-flavored new of rich body is in light stock, and some favorite marks of this description are commanding an advance on quotations. Well-seasoned cheese is offering at old figures, with sufficient supplies of the same for current needs.

California fancy flat, new	8½@ 9½
California, good to choice	7½@ 8½
California, fair to good	7 @ 8
California, "Young Americas"	8 @10

Eggs.

Market has been very slimly supplied with strictly fresh eggs, and where such were large, white, clean and in every way desirable, sellers were able to dictate stiff figures, some brands in high repute going to special custom at an advance on quotable values. Ordinary qualities did not receive much attention, and failed to command a marked advance on previous figures. Most buyers took Eastern eggs or local cold storage stock in preference to defective qualities now coming forward from interior and coast points.

California, select, large white and fresh	28 @29
California, select, irregular color & size	22½@27½
California, good to choice store	16 @20
California, common to fair store	12 @15
Oregon, prime	17 @19
Eastern, as to section and grading	16 @19
Eastern, seconds	13 @16
Duck eggs	18 @20

Vegetables.

Changes have not been numerous or pronounced in this market during the current week. Arrivals of tomatoes were less excessive than last noted, and the tendency on desirable qualities was to slightly firmer figures. Onions continued in sufficient supply to keep prices at a low range. Corn was in decreased receipt, and it was the exception when the quality was not more or less faulty.

Asparagus, Fancy, ₱ box	— @— —
Asparagus, common to good, ₱ box	— @— —
Beans, String, ₱ sack	50@ 1 00
Beans, Wax, ₱ lb	1½@ 3
Beans, Garden, ₱ lb	2@ 3
Beans, Lima, ₱ lb	1½@ 3
Cabbage, choice garden, ₱ 100	50@ 60
Cauliflower, ₱ doz	40@ 50
Corn, Alameda Sweet, ₱ crate	1 00@ 1 25
Corn, Berkeley, ₱ crate	50@ 1 00
Corn, Green, ₱ sack	50@ 75
Corn, Vacaville and Winters, ₱ crate	— @— —
Cucumbers, Alameda, large box	15@ 25
Egg Plant, ₱ box	25@ 40
Garlic, ₱ lb	1@ 2
Okra, Green, ₱ box	25@ 40
Onions, Red, ₱ cental	—@ —
Onions, Yellow, good to choice	30@ 37½
Peas, Green, ₱ sack	50@ 1 00
Peppers, Green Chile, ₱ box	25@ 50
Pepper, Bell, ₱ large box	40@ 50
Pickles, No. 1, ₱ 100 lbs	75@ 1 25
Pickles, No. 2, ₱ 100 lbs	40@ 50
Rhubarb, ₱ box	—@ —
Squash, Bay, ₱ large box	15@ 25
Tomatoes, River, per large box	15@ 25
Tomatoes, Bay, ₱ box	15@ 30

Potatoes.

Stocks on wharves and in the wholesale depots were lighter than for preceding week, and the market presented a little better tone, although no radical changes were established in quotable rates. The firmness existing was confined principally to the best qualities of Burbank Seedlings. Sweets were in fair request, and for desirable stock the market was moderately firm, choice in boxes selling at $1.50.

IN SACKS.

Early Rose, River, ₱ cental	25@ 35
Peerless, River	—@ —
Garnet Chile, Mission	40@ 50
Burbanks, River	30@ 40
Burbanks, Salinas	60@ 90
Sweet Potatoes	75@1 25

The Fruit Market.

Fresh Fruits.

The aggregate of receipts of fresh fruit was lighter than at any previous date since the current season fairly opened. The tendency of values was in the main upward, especially on choice to select qualities, although it was the exception where very radical changes in quotable rates were established. The rainy weather experienced early in the week had much to do with checking shipments from the interior and causing a generally firmer tone to prevail.

Apple market is fairly stocked with common to medium qualities, but choice to fancy are scarce, and buyers desiring fruit of this description do not hesitate to bid up to extreme current quotations and above, knowing that they are perfectly safe in so doing and that they will not be overwhelmed with offerings. For all wormy, small, specked or otherwise defective apples, the market is weak.

Peaches of the late varieties are only offering in moderate quantities and are mainly clings. A few Salways are being received. The demand was mainly for immediate use, but there was no excessive supply of desirable qualities, and values were better sustained than for some weeks preceding.

Pears are not making as liberal or attractive display as earlier in the season. Next to Bartletts, the Beurre Hardy is probably as much in favor as any of the varieties now in season. Pears which were attractive for table use, sound and palatable, met with fair custom at moderately good figures.

Plums and prunes are in light receipt, and there is no probability of many arriving during the balance of the season. Market is in fairly good shape for desirable qualities. Some strictly select are held higher than quotations.

Figs are still on market, but in very moderate quantity, and the quality of most offerings is rather ordinary. Market for this fruit is quiet, with quotable values without appreciable change.

Pomegranates are making a fair showing, with demand not very extensive, the merits of this fruit not being generally known.

Watermelons have been commanding a moderate advance over previous rates. Cantaloupes and Nutmeg Melons also ruled more favorably to sellers than last quoted.

Berries of all sorts were scarce, and good qualities were salable to advantage. The demand at the higher figures, however, would not have absorbed very large quantities of any variety.

Grape market has shown improved condition, under decreased receipts, and damage to the outstanding crop by the rainy weather early in the week. Prospects are favorable for all choice to select grapes commanding fairly good prices during the balance of the season.

Apples, fancy, 4-tier, per box	1 00@ 1 25
Apples, good to choice, 50-lb box	75@ 1 00
Apples, fair to good, 50-lb box	50@ 75
Apples, common, ₱ 50-lb. box	30@ 50
Crabapples, ₱ box	—@ —
Figs, Black, ₱ 2-tier 15-lb box	50@ 75
Figs, Black, ₱ 1-tier box	30@ 50
Figs, White, ₱ box	30@ 50
Nectarines, Red, ₱ box	—@ —
Nectarines, White, ₱ box	—@ —
Prunes, Falkenburg, ₱ crate	50@ 75
Prunes, Hungarian, ₱ box	—@ —
Prunes, German, ₱ 50-lb. box	65@ 80
Peaches, fancy wrapped, ₱ box	60@ 75
Peaches, good to choice, ₱ box	35@ 60
Peaches, Cling, per ton	25 00@ 35 00
Pears, Bartlett, ₱ ton	— —@— —
Pears, Bartlett, No. 1, per box	75@ 1 00
Pears, Bartlett, No. 2, per box	50@ 75
Pears, other kinds, ₱ box	25@ 75
Plums, choice, large, ₱ box	50@ 75
Plums, other kinds, ₱ box	25@ 50
Plums, ₱ crate	40@ 85
Pomegranates, ₱ box	50@ 75
Quinces, ₱ box	35@ 60
Nutmeg melons, ₱ box	35@ 60
Watermelons, per 100	4 00@ 8 00
Canteloupes, per crate	50@ 1 00

Berries.

Blackberries, ₱ chest	2 50@ 3 50
Currants, Red, ₱ chest	— —@— —
Raspberries, ₱ chest	3 50@ 5 00
Strawberries, Longworth, ₱ chest	— —@— —
Strawberries, Large, ₱ chest	3 50@ 5 00
Whortleberries, ₱ lb	8@ 10

Grapes.

Black Hamburg, ₱ box	30@ 45
Fontainebleau, Cal., per crate	35@ 50
Fontainebleau, Cal., per box	30@ 40
Muscat, per box	35@ 50
Muscat, ₱ crate	50@ 60
Rose of Peru, ₱ box	35@ 45
Rose of Peru, ₱ crate	40@ 60
Royal Isabella, ₱ crate	1 25@ 1 50
Seedless Sultana, ₱ box	40@ 65
Tokay, ₱ crate	60@ 85
Zinfandel, ₱ ton	20 00@25 00

Dried Fruit.

The Eastern dried fruit market is thus summarized by a New York authority:

New evaporated apples are in fair supply and receiving a very moderate demand. The fruit is August and September make, and naturally not as good as later made stock will be, causing prices to appear extremely low, but holders urge sales at every opportunity. About the best shown, which barely grade as fancy, are held at 5½@5¾c, with average stock selling from 1@5c, and lower for very common. Old job very slowly in ranges quoted, but prices lean strongly in buyers' favor and outside figures are extreme. Scarcely anything doing in sun-dried apples. Chops have a light demand, but cores and skins sell fairly at the low figures quoted. Peaches quiet and nominal. Raspberries steady. Huckleberries held firmly, mainly at 8c, but 7@7½c all that could be realized were holders disposed to sell. Blackberries weak and 4c, about all that can be depended upon. Nothing doing in cherries. California fruit firm owing to the strong advices from the coast.

The dried fruit market is showing more firmness than at any former date the current season. The improved tone is attributable to several causes, not the least being the comparatively light offerings of high grade fruit, on which the strength of the market is principally centered. Another cause is the reduced freight rates to Europe per Atlantic steamers; the reduction amounting to about $2 per ton. Much of the outward movement in dried fruit this season has been to European countries. Another factor in strengthening the market for choice stock has been the damaging weather of the current week.

Apricots are firmest on the list, with continued foreign demand, but most of the inquiry from abroad is for choice to fancy, quality being more of a consideration than price. There are few fine goods now offering in this line, particularly of Moorparks.

Pears of select quality are also wanted for shipment. For evaporated Bartletts, halved and of superior merit, 6c is bid and is more readily obtainable than 3½c for some ordinary stock.

Peaches of high grade are in demand on foreign account, and stiffer figures are obtainable for especially desirable lots than are warranted as quotations, but the more ordinary qualities are not meeting with any active inquiry.

Apples are ruling steady, with not many sellers at present and dealers anxious to purchase at inside figures.

Prune market has been affected materially by the unfavorable weather for curing, and asking rates have been advanced, particularly for the large sizes and for early deliveries. Prunes running 40-50 to the pound are scarce, and buyers are now naming 5c for the same.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	6½@ 7½
Apricots, Royal, fancy	8 @ 9
Apricots, Moorpark	10 @12
Apples, in boxes	5 @ 5½
Nectarines, White	4½@ 5
Nectarines, Red	3½@ 4
Peaches, unpeeled, prime to choice	3 @ 4
Peaches, unpeeled, choice and fancy	4 @ 6
Peaches, peeled, in boxes	9 @11
Pears, peeled and sliced	4 @ —
Pears, unpeeled Bartletts, halved, fancy	6 @ —
Pears, halved, unpeeled Bartletts	4 @ 5
Pears, quartered, unpeeled Bartletts	3 @ 4
Plums, pitted	3½@ 5
Prunes, in sacks, 4 sizes	3 @ 3¼
Prunes, in sacks, small sizes	1¾@ 2¼

COMMON SUN-DRIED.

Apricots, ordinary	5 @ 6
Apples, sliced	2 @ 2½
Apples, quartered	2½@ 3
Figs, Black	2 @ 2½
Figs, White	3 @ 4
Peaches, unpeeled	2½@ 3½
Plums, unpitted	1 @ 1½

Raisins.

That there was considerable damage done to the raisin crop by this week's rain is generally conceded. Curing will be materially retarded and there are likely to be some losses on contracts for September shipments. While quotable values have not been disturbed to any noteworthy extent, the market is without question much firmer in tone than a week ago. The yield will not only be much lighter than last year, but later in curing than was anticipated.

FIRST HALF OCTOBER SHIPMENTS.

Imperial Clusters, per box	2 50 @ —
Dehesa Clusters, per box	1 75@ 2 25
Fancy Clusters, per box	1 40@ 1 50
Boxes, London layers, 20-lb box	1 05@ 1 10
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ₱ lb	4 @4½
Loose Muscatel, 3-crown	3¼@ —
Loose Muscatel, 2-crown	2¾@ —
Sultanas	4 @ —

SPECIAL PRICE LIST FOR THIS WEEK.

Corned Beef, 2-lb., with patent key opener, per doz	$1.75
Good English Breakfast Tea, just imported, per lb	.17
Pouchong Tea, by the chest, per lb	.10
Holland Herrings, in full-size kegs, 20 lbs. gross; fresh, new goods; kegs bright and clean; per keg	1.00

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Members of the San Francisco Produce Exchange.
Personal attention given to sales and liberal advances made on consignments at low rates of interest.

Seedless Muscatel	2½@3½
Dried Grapes	2½@3

Citrus Fruit.

Lemons are on market in sufficient quantity for present requirements, with no active demand at the moment. Best qualities are commanding fair figures, but common are salable only at low prices.

Oranges—Wash. Navels, ℔ box	— —@— —
Cal. Mediterranean Sweet	— —@— —
Cal. Seedlings	— —@— —
Cal. Valencias	— —@— —
Lemons—Cal., select, ℔ box	3 00@ 3 50
Cal., good to choice	1 50@ 2 50
Cal., common to good	75@ 1 50
Limes—Mexican, ℔ box	5 00@ 6 00
Cal., small box	1 00@ 1 25

Nuts.

The outlook on new crop almonds is for a firm market at about the figures below quoted or possibly a little higher range. The crop will be light. Market for new crop white walnuts shows firmness, and prospects are the entire yield will rapidly find its way into consuming channels.

California Almonds, paper shell	8½@ 9½
California Almonds, soft shell	7 @ 7½
California Almonds, standard	6 @ 6½
California Almonds, hard shell	4½@ 5
Walnuts White, paper shell	9 @10
Walnuts White, soft shell	8 @ 8½
Walnuts White, Cal., hard shell	6½@ 7
Peanuts, Cal., fair to prime	4 @ 5
Peanuts, Eastern hand-picked	5 @ 6
Pine Nuts	12½@15

California Fruit Sales.

CHICAGO, September 16.—California fruit sold to-day: Pears—Bartlett, $1.25@1.70. Peaches, 60@80c. Grapes—Tokay, $1@1.35; Muscat, 95c. Prunes—Gros, 80c@$1.30; Hungarian, $1@1.05; Silver, $1; Italian, 95c@1.

NEW YORK, September 16.—California fruit sold to-day as follows: Grapes—Tokay, $2.70 per double crate and 75c@$2.05 for single; assorted, $1@1.55; Muscats, 50c@$1.45. Pears—Zoe, $2 per box and 85c per half-crate; Bartlett, $1.40@1.85 per box and 90c per half-box. Prunes—Silver, $1.15@1.25 per half-crate; German, 85c@$1.25. Plums—Golden Drops, $1.20 per half-crate. Peaches—Bakersfield Clings, 80c per box; Piquets, late, 60@70c; Salways, 45@70c.

CHICAGO, September 17.—California fruit sold to-day as follows: Pears—Bartlett, $1.55@1.60. Grapes—Tokay, 45c@$1.35; Muscat, 90c@$1.05. Prunes—Italian, 90c.

NEW YORK, September 17.—California fruit sold to-day as follows: Pears—Bartlett, 90c@$2.05 per box; other varieties, 40c@$1.10. Grapes—Tokays, 35c@$1.65 for single crates; Black Morocco, $1.30; other varieties, 40c@$1.15. Quinces, $1 per box. Peaches, 50@90c per box.

CHICAGO, September 18.—California fruit sold to-day as follows: Pears—Bartlett, $1.50@1.75. Grapes—Tokay, $2.10@2.20 per crate; half-crates, $1@1.20; some in bad order brought less; Cornichon, $1.55; Malaga, $1.30; Muscat, $1@1.10. Plums—Kelsey Japan, $2. Quinces, $1.25. Peaches, 50@65c.

NEW YORK, September 18.—California fruit sold to-day as follows: Plums—Japan, $2.60 per half-crate; Ickworth, $1.10@1.30. Grapes—Tokay, $2.45 per double crate and 70c@$1.65 for single; Muscat, 55c@$1.25; assorted, 90c@$1.20; Black Morocco, $1.55; Malvoise, 95c. Pears—Bartlett, $1.30@1.70 per box and 90c per half-box. Prunes—Silver, 80c per half-crate. Peaches—50@75c per box.

CHICAGO, September 21.—California fruit sold to-day as follows: Pears—Bartlett, $1.20@2; Beurre Clairgneau, 80c@$1.30; Beurre Hardy, $1.05@1.20. Grapes—Tokay, $1@1.85; some in bad order brought less; Muscat, 55c@$1.30. Prunes—Gros, $1.05@1.20; Italian, 90@95c; Silver, 85@95c.

CHICAGO, September 22.—California fruit sold to-day as follows: Grapes—Tokay, $3.80 double crate and 58@$1.35 single crate; Muscats, 58@$1.20. Pears—Bartlett, $1.80@2 per box. Peaches—Salway, 50@60c per box; clings, 25@50c per box and 20c per half box.

NEW YORK, September 22.—California fruit sold to-day as follows: Grapes—Tokay, $2.65 per double crate 90c@$1.50 single; Muscats, 70c@$1.10. Pears—Bartletts, $1.85@1.90 per box and $1 per half box; Seckels, $1@1.90 per box; Doy du Comice, $1@$1.55; Buerre Hardys, $1.10. Plums—Columbia, $1.25 per half crate. Peaches—35@75c per box.

THE *Railway Age* gives the following statement of roads in receivers' hands on June 30th last:

	No. Roads.	*Miles.*	*Capitaliza'ion.*
In hands receivers on June 30, 1895	169	37,855	$2,500,000,000
From June 30, '95, to June 30, '96	38	5,576	410,000,000
Totals	207	43,431	$2,910,000,000
Sold from June 30, '95, to June 30, '96	57	14,437	$1,009,899,000
In receivers hands June 30, '96	150	29,994	$1,900,101,000

A COMPANY of American capitalists have completed the purchase of all the street railway lines of Monterey, Mexico. They will be converted into electric lines, thus providing Monterey with the first electric street railway system in the republic.

STATE OF OHIO, CITY OF TOLEDO, } ss.
LUCAS COUNTY,
FRANK J. CHENEY makes oath that he is the senior partner of the firm of F. J. CHENEY & CO., doing business in the City of Toledo, County and State aforesaid, and that said firm will pay the sum of ONE HUNDRED DOLLARS for each and every case of CATARRH that cannot be cured by the use of HALL'S CATARRH CURE.
FRANK J. CHENEY.
Sworn to before me and subscribed in my presence, this 6th day of December, A. D. 1896.
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Hall's Catarrh Cure is taken internally and acts directly on the blood and mucous surfaces of the system. Send for testimonials, free.
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A Herd of Prize Winners at the State Fair.

(*Continued from page 193.*)

headed by Duke of Alamo that won first prize in Hereford class.

Lady Mattie, three-year-old cow, by Earl of Shadeland, won sweepstakes in Hereford class and sweepstakes over all breeds.

Tottie, cow, six-year-old, sired by Saracen, weight 1700 pounds, short-legged, wonderful development of beef points. One of herd headed by Shadeland winning first class in Herefords.

Lady Laughter, cow, three-year-old, sired by Earl of Shadeland 30th, one of herd headed by Earl of Shadeland that won first prize in Hereford class; a very small-looking cow but weighed 1450 pounds on the ground.

Miss McKinzie, three-year-old cow, sired by Landor, one of herd headed by Earl of Shadeland and winning first prize in Hereford class. She is dam to Miss Pyramid, the calf winning so many first prizes.

Mr. Sparks, the owner of this splendid group of prize winners and of the Alamo breeding farm, is by no means a fancy farmer, but a practical man, of large experience in breeding on blood lines, as well as in the handling of beef and dairy stock. His selection of the Herefords was after years of observation and trial. He has demonstrated to his own satisfaction their pre-eminent qualities as profit winners. A Hereford cross, he says, wonderfully improves a herd of even the commonest stock, and that "a few white elephant faces stuck in a car is often a notable factor in effecting a sale to a butcher."

We are glad to hear that the Herefords achieved this victory on the Pacific coast, because it signifies that the breed is being handled intelligently and is being made to show forth the points upon which its distinguished history and reputations are based. There have been Herefords in California for some years and they have been found valuable, but they have not always been handled well nor have the specimens always been as good as they should be. Mr. Sparks' triumph will be effective in emphasizing what others have found good in the breed and will be a revelation of excellence to those who have been operating with inferior specimens. It will also call prominently to the attention of stockmen the real excellences of the Herefords and lead to their much wider distribution on this coast.

The Herefords, like the other leading breeds of stock, have gained something by their introduction to America. American purchasers in England were content with nothing but the best of the English prize winners, and they have bred them with the highest intelligence and the fullest regard for their further development. The result is that at the present day there are as good Herefords in this country as there are in England, and owing to the descent of the increase from the very best selected animals the American average Hereford is conceded to be in advance of the average Hereford in Herefordshire. Not only is this true, but there are choice individuals which have attained excellence which cannot be equaled anywhere. The same thing is also true of some other popular breeds. The highest prices ever paid for single animals in the world have been paid in America, and it is almost beyond belief that in some cases English breeders have paid these prices and have taken their purchases back to the old country. We mention these facts simply to show that American breeders have added value even to the best breeds of which they imported the foundation stock. It is significant, therefore, to the whole live stock interest of this coast that Mr. Sparks reached such advanced excellence in his handling of the Herefords. Those who may, perhaps, be somewhat familiar with the Herefords which were brought to this coast from Australia some years ago, and have been distributed from that importation, will get a new idea of Hereford excellence when they see what Mr. Sparks has accomplished by his selection from the best Eastern herds and his exceptionally intelligent and masterful handling of this foundation material under the superior climatic advantages of this coast.

ADVANCE sheets of *Poor's Manual* for 1896 give the total miles of road at the close of the year as 180,955, of which 1,922 miles were constructed during the year. The share capital was $5,182,121,999, an increase of $106,492,929 or 2.1 per cent. The funded debt of all lines amounted to $5,640,942,567, an increase of $35,166,803 or .63 per cent. Other forms of indebtedness amounted to $418,505,092, an increase of $35,577,258. The total gross earnings of the roads were $1,093,139,605, an increase of $25,496,092. Net earnings were $323,196,454, an increase of $5,439,055.

The street railway lines in the country foot up 15,596 miles, an increase of 3,514 since 1891. The capitalization, representing all but 530 miles, amounts to $828,547,285 in stock and $525,949,928 in bonds.

The earnings of 17,269 miles of trunk-line roads last year were 817 millions, compared with 807 millions in 1894 and 923 millions in 1893. Net earnings were 251 millions, against 247 millions in 1894 and 279 millions in 1893. The dividends paid amounted to 1.95 per cent on the share capital invested, compared with 2 28 per cent in 1894, 2.40 per cent in 1893, 2.43 per cent in 1892, and 2 46 per cent in 1891.

The following statement shows the results of the operations of the railroads of the United States for the year 1895, compared with those for 1894:

	1895.	*1894.*	*Increase.*
Miles of railroads oper'd.	179,162.18	176,229.11	2,933.07
Tons freight moved	763,799,833	674,714,747	89,085,086
Freight mileage	88,567,770,801	82,219,900,498	6,347,870,303
Passengers carried	543,974,263	583,248,007	*39,273,744
Passenger mileage	12,642,202,551	13,600,531,635	*958,329,084
Earnings fr'm freight	$743,784,451	$700,477,409	$43,307,042
Earnings fr'm passenger	261,640,598	276,031,571	*14,390,973
Miscellaneo's earnings	87,714,543	91,134,533	*3,419,990
Total gross earnings	$1,093,139,592	$1,067,643,513	$25,496,092
Net earnings	823,196,454	317,757,399	5,439,055

* Decrease.

THERE is a scheme on foot to furnish electric power to the city of Mexico from peat beds, nine miles distant, owned by Boston interests.

Notice to Passengers.

Keep your baggage checks until you reach San Francisco and you will save money by leaving same at any of our offices, our rates being lower than all others, viz., Trunks, 35 cents each. N. B.—We do not have any agents on the trains or steamers. MORTON SPECIAL DELIVERY, 408 Taylor St., 650 Market St., and Oakland Ferry Depot (foot of Market St.). *

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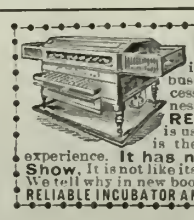
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FARM GEARS.

	Cat. No.	Size Axle.	Style Axle.	Width Tire.	Capacity.
7	47	2⅛	Hollow Steel..	2 in.	2500 lbs.
5	47	2⅛	"	3 in.	2500 lbs.
4	48	2⅜	"	2½ in.	4000 lbs.
3	50	2⅞	"	4 in.	6500 lbs.
6	38	1¾	Concord Steel.	3 in.	4000 lbs.
1	40	2	"	2½ in.	6000 lbs.
1	40	2	"	3 in.	6000 lbs.
2	40	2	"	4 in.	6000 lbs.
8	18	3¼	Steel Skein...	2 in.	4000 lbs.
2	18	3¼	"	2½ in.	4000 lbs.
8	19	3½	"	2¼ in.	5000 lbs.
4	19	3½	"	3 in.	5000 lbs.

All these wagons are fresh stock, fully guaranteed, and prices can't be duplicated.

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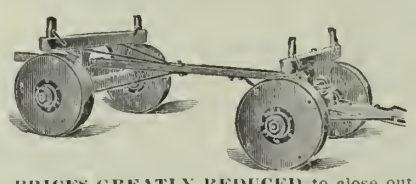

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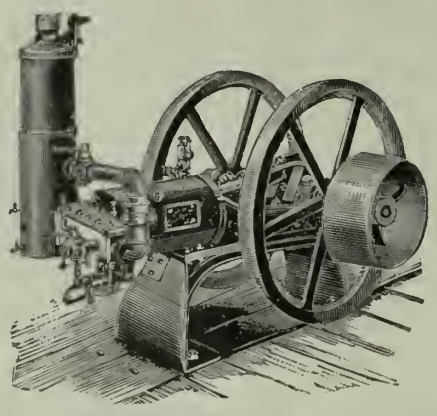

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Coal Gas, ten hours' run, 1000 feet	$2 00
Gasoline (74 deg.), ten hours' run, 8¾ gallons @ 14c.	1 25
Coal Oil, ten hours' run, 7½ gallons @ 10c	75
Crude Petroleum, asphaltum base, 16 gallons @ 3c	48
Crude Petroleum (36 deg.), paraffine base, 13 gallons @ 5c	65

On the crude petroleum with asphaltum base we had an over-product of 7 gallons of asphaltum; the market price is 3 cents per gallon=21 cents. This deducted from the first cost of the crude petroleum for ten hours' run leaves a net balance of 27 cents. And from the crude oil with a paraffine base we had an over-product of 3 gallons of good lubricating oil, which we consider equal to any we have ever used, but will estimate its value conservatively at 20 cents per gallon, making 60 cents; this deducted from the first cost of the crude oil leaves a balance of 5 cents, total cost of running ten hours.

It will be readily seen that the operation of these Engines with crude petroleum reduces the cost of operation to a minimum. Crude petroleum with paraffine base at 1-10c per horse power per hour; on crude petroleum, asphaltum base, ¼c per horse power per hour; on domestic coal oil, 1½c per horse power per hour; and on gasoline, 2½c per horse power per hour.

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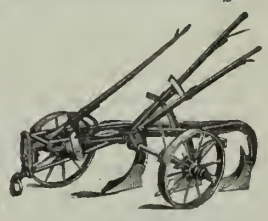

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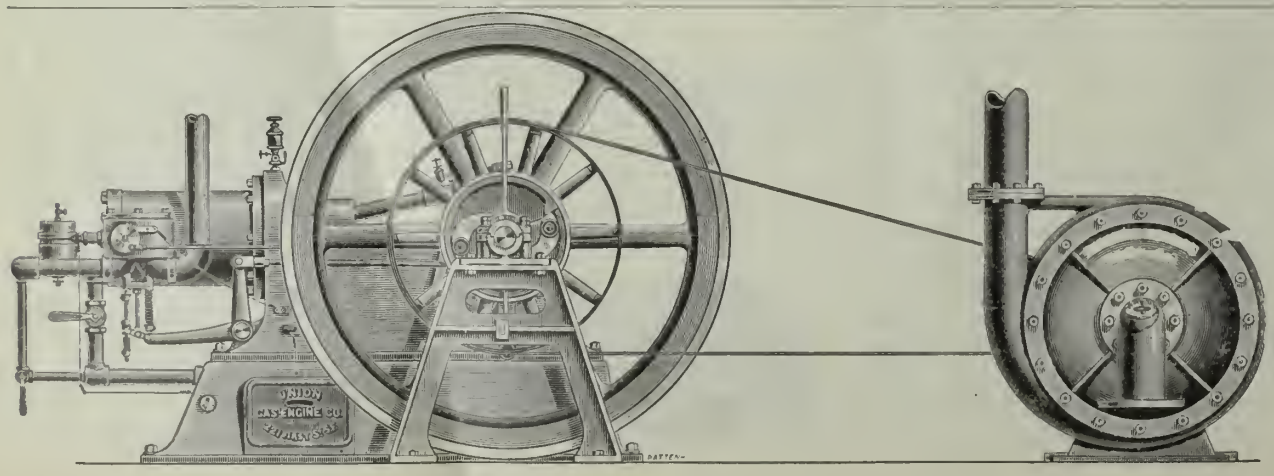

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AND CALIFORNIA FRUIT BULLETIN.

Vol. LII. No. 14. SAN FRANCISCO, SATURDAY, OCTOBER 3, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.

Paper not to be taken from the Library.

Glimpses of the Picturesque in San Luis Obispo.

We gave week before last a view of the main town in San Luis Obispo and we turn now to the more picturesque in the county scenery, specimens of which we take from the *Tribune's* souvenir edition. The California coast is varied with bluff and low sandy beach and rocks sculptured by the waves. These aspects frequently change within short distances as they do at Pismo, where our views are taken. If one should hear of the fame of the place as a bathing and camping resort and then behold the rocky view on this page, he would conclude that the reputation illy fitted the view. In fact, however, Pismo has both the wild and the subdued, for there are stretches where the waves roll lazily up the smoothest and gentlest slope of sand to be found anywhere, and there are rock clusters of great height and width upon which the waters lash themselves into the wildest fury. Another rock resource of Pismo is the mass which the picture shows as well tenanted by tourists as it commonly is by sea fowl.

ROCKY BEACH NEAR PISMO.

The Dairymen's Convention.

The attendance at the convention of the State Dairy Association (which is in progress as we go to press) is very good. The announcement of the participation of Major Alvord, Chief of the Dairy Division at Washington, and the local interest in the tuberculosis question have both been factors in bringing out the dairymen in spite of hard times and active politics. The meetings are being held in the Chamber of Commerce, Joseph Mailliard presiding, with S. E. Watson as secretary.

The Annual Address.—President Mailliard, in his annual address, gave a clear account of the aims and purposes of the California Dairy Association—that it is not a corporation for any trade or financial purpose. It is an organization for the benefit of the dairy interest and all concerned in it, and not for any individual or group of individuals. Its purposes are to have proper and beneficial laws passed by the Legislature, when necessary, to secure justice both to producer and consumer; to educate, as far as possible, the dairymen of this State, so that they may be able to stand upon the same footing with the dairymen of other States, who have had such educational opportunities and experiences that their knowledge of business, their methods, their marketing of products, breeding and raising of cattle, feeding for profit, etc., are superior to ours. An association like ours commands the respect and attention of the Government, the State legislatures and educational institutions in a way that a money-making corporation cannot. It is a power in itself, and of a healthy kind, and the larger the membership the more power it will have.

Mr. Mailliard instanced the oleomagarine legislation secured by the association from the California Legislature, and the fact that our market is far healthier than it would have been if adulterated products had not been restricted. Prices have been low, but it is due to the increased production from the disposition recently to take up dairying because other agricultural products were too low to yield profit.

Mr. Mailliard finally urged the need of extended facilities for dairy education. He thought that California, whose statistics show dairying to be second in the list of her industries, should not be behind other States in dairy education. To attain improvement in this regard, and to carry forward all the objects of the association, it is hoped that its membership may be largely extended.

SEAGULL ROCK NEAR PISMO, IN SAN LUIS OBISPO COUNTY.

Discussions on Tuberculosis.—The subject of tuberculosis was opened with a well written paper by Dr. Phillip K. Brown of this city, representing the Academy of Sciences. It gave a clear exposition of the tubercle germ and its occurrence and was heard with much interest. The exhibition of the bacillus with a microscope by Mr. C. C. Riedy of the San Francisco Microscopical Society was gratefully received.

H. H. Taylor of the Millbrae dairy sent in a letter relating to the difficulties encountered in this vicinity in making the tuberculin test according to the requirements of the United States Government. He suggested that the dairymen of the State unite in insisting that the use of tuberculin from any laboratory be permitted, and that the University of California be required to manufacture it and sell it at cost; also that the method of administering it be a modification of the Government plan. The letter concluded with a reference to the methods used in Pennsylvania, from which good results had been obtained.

Professor E. J. Wickson of the State University said that while he had not authority to commit the University, he

(*Continued on page 212.*)

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Our latest forms go to press Wednesday evening.

Registered at S. F. Postoffice as second-class mail matter.

ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, October 3, 1896.

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The Week.

The following data for the week ending 5 A. M. Wednesday, Sept. 30, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	...	.82	3.27	1.57	68	46
Red Bluff	....	1.17	1.92	.69	90	56
Sacramento	....	.52	1.28	.41	*	48
San Francisco	.01	.65	.78	.30	81	52
Fresno	....	.26	.07	.32	94	50
San Luis Obispo	....	.24	T	*	94	48
Los Angeles	....	.07	T	.14	86	54
San Diego	....	.06	.01	.15	76	56
Yuma	....	.50	.01	65	102	56

* Indicates no record.

The Horse Show.

The third annual Horse Show at San Francisco will be held this year on December 9th, 10th, 11th and 12th, at the Mechanics' Pavilion. The prizes to be put up for open competition will aggregate $15,000 in value, and the classification has been made with a view to give the horse breeder, as well as the owner of fashionable turnouts, a fair chance. Arrangements for transportation have been made with the Southern Pacific, South Pacific Coast and S. F. & North Pacific railroads as follows:

On all exhibits forwarded to the Horse Show Association of the Pacific Coast prior to the opening of the exhibition full tariff rates shall be charged; but such exhibits, if unsold and reshipped within ten days after the close of the exhibition, will be returned free, under live stock contract, by the Southern Pacific Company, or the San Francisco & North Pacific Railway Company, upon presentation of a certificate, signed by the proper officers of the exhibition, to the effect that the shipments are unsold exhibits which have paid full tariff rates one way; which certificate shall be attached to the manifest of each shipment. For points out of California special arrangements will have to be made.

The principal officers of the Horse Show Association are: H. J. Crocker, president; John Parrott and T. L. Rathbone, vice-presidents; George A. Newhall, secretary; Obed Horr, assistant secretary. The Association may be communicated with at its office, room 30, second floor, Mills' Building, San Francisco.

Better Prices for Products.

The wheat markets of the world, noted last week as strong and advancing, have since continued on same lines, further decided improvement having been established in values. The dried fruit market is also in excellent state, as compared with recent conditions, being firm and active. The advance in wheat, while based on substantial grounds, is, to some extent, the result of speculative manipulation. The improvement in dried fruit, however, may be regarded as almost wholly the workings of the natural law of supply and demand. For details the reader is referred to the market review in another portion of this paper.

THURSDAY MORNING, October 1st.—A telegram from Chicago reports wheat 69⅞ for December. Our market is also higher. This is the highest price reached for several years.

Pith of the Week's News.

AT Baltimore, on Sunday, a two-months old baby was killed by rats.

WORDEN, the train wreeker, has been sentenced to hang at Folsom Dec. 18th.

LEADVILLE, COLORADO, is still under martial law, both State and national troops being on the ground.

THE Massachusetts Democrats have nominated George Fred Williams, the silver champion, for Governor.

THE city of Kobe, Japan, has been wiped out by fire. The loss of life was 2500 and the property loss foots up many millions.

JOHN R. GENTRY paced a mile in 2:00½ at Portland, Maine, last Thursday. It looks as if the two-minute horse had nearly been found.

JOHN WANNAMAKER has bought the old establishment of A. T. Stewart and will hereafter have both a Philadelphia and a New York shop.

AT Hartford, Conn., last week a crowd of Yale College boys were so noisily disrespectful at a Bryan meeting that Mr. Bryan had to cease speaking.

LODI, September 27.—A disease closely resembling hog cholera has made its appearance here. It is nearly always fatal, and several droves of hogs have been destroyed.

IT appears that none of the "big guns" on either side are coming to California this campaign. During October the fight is going to be centered in the Mississippi Valley States.

AT Chicago, last week, Louis Grimm, a Cleveland cyclist, rode 486 miles and 1151 yards in 23½ hours. He was taken fainting from the track. The finish was a scene of pitiful exhaustion.

JOHN BOYD THATCHER, the gold-standard Democrat who was nominated for Governor of New York ten days ago, has withdrawn from the ticket and Wilbur F. Porter, a silver man, has been named in his place.

EX-SENATOR INGALLS of Kansas, who went down under the Populist wave four or five years ago, is making a desperate fight for his old place. In this effort he will devote his whole time during the campaign to Kansas.

THE proposition to deport the Armenians to this country is not a fair way out of the troubles in Asia Minor. What the Armenians have a right to is justice in their own country; and that is what Christendom ought to see that they get.

THERE is in Colorado a strong feeling of resentment against Senator Wolcott on account of his support of McKinley, and petitions are in circulation asking him to resign. In case Wolcott refuses to resign, as he surely will, the petitioners will file their appeal with the U. S. Senate.

SOCIAL gossip of the week includes the marriage of Ex-Secretary Whitney and Mrs. Randolph; hints at a matrimonial engagement between Chauncey Depewand a daughter of the Vanderbilt house; and announces that there are "expectations" in the home of Ex-Senator Harrison.

MR. BRYAN has had a busy week. He has traveled from New York to Maine and back again, speaking from one to five times each day. The strain has finally told on him and after addressing a great meeting in Tammany Hall on Tuesday night his strength gave way. He will probably remain quite a few days before resuming his travels. Mr. McKinley continues to receive industrial delegations daily at his home.

WHEN the late Charles Crocker died, he gave the share of his property, which would naturally have gone to his son George, into the hands of trustees under orders to deliver it over to the young man when he should be able to prove that he had lived a sober life for the period of five years. Last week a friendly suit was brought by the trustees looking to the handing over of the property, George Crocker having fulfilled the requirements of the will.

THE Democrats of Idaho, it appears, are not coming to the support of Senator Dubois, who was among the silver bolters along with Mr. Teller from the Republican Convention at St. Louis. Secretary Walsh of the National Democratic Committee has been taking a hand in Dubois' fight and has written a letter in which he states that the National Democratic Committee desires the return of Dubois to the Senate, and calls upon the Democrats of Idaho to cancel the agreement with the Populists, recognize the silver Republicans and assist in every way to secure the return of Dubois to the United States Senate. It is now believed that, before bolting the Republican Convention at St. Louis, Dubois had "fixed himself" with the Democratic National Committee.

Gleanings.

ELEVEN THOUSAND TONS of beets have been shipped from the Anaheim district to the Chino sugar factory this season.

MACHINERY for the sugar factory to be established on the Alamitos ranch, near Santa Ana, has been purchased and will soon arrive.

MR. JAMES W. SPERRY of Stockton, well known in his relation to the flour trade, died at his home on the 28th. He was about 40 years old and the cause of his death was cancer of the stomach.

THE Migliavacca winery at Napa began operations last week with grapes from the Woodland district. Napa valley grapes will be ripe enough for crushing by the end of this week. Prices at the winery range from $20 to $22 per ton.

ANAHEIM letter: The anthrax disease among cows has been almost entirely confined to the damp land in the neighborhood of Bolsa and Westminster, and even there the mortality among stock was trifling. The disease is now all but stamped out.

PETALUMA *Argus*: "The famous Gianelli ranch was sold Monday by the sheriff for $58,903. Mrs. Gianelli, the plaintiff in the foreclosure proceedings, was the only bidder. There were forty defendants in all, including the Kenwood Land Company. Some of the defendants will probably redeem their homes within the six months allowed by law, but many of them will lose the amount paid in installments and several years of hard labor in improvements."

THE Mattesons have bought out the interest of the Williamson heirs in the Matteson & Williamson Agricultural Works at Stockton, and, after a long shut-down, the wheels are again turning. The works cover two acres, employ upwards of 100 men when in full operation and are fully equipped with machinery of the most modern type. The new firm takes the name of the Matteson Manufacturing Co. D. C. Matteson is president and W. E. Williams secretary.

LEMOORE *Leader*: Charles Downing commenced picking pears this year on the 10th of June with six pickers. He kept adding on pickers from time to time as the fruit ripened until he had twenty-three pickers employed for several weeks. They had three teams hauling the fruit to the packing house, and the pickers averaged putting a load on a wagon every twenty minutes. Each team would make the rounds once an hour. Of his own crop of pears Mr. Downing shipped seventy-two carloads, besides the pears he has fed to his stock and disposed of otherwise, and he has twenty tons of dried pears. Considering the packing, boxing, shipping, etc., the work of handling such a crop as that is no small affair.

UKIAH *Herald*: "That portion of Mendocino drained by the Russian river is rapidly filling up with a class of people who believe that a small farm well tilled is better than a large one run to weeds. As a rule, the man with a small holding pays much more attention to trees and vines, and, no doubt, ten years hence, judging from our inspection, this portion of our county will be as noted for its fruits as it has been in the past for its hops. Anderson valley, since colony days, has been noted for its fine apples. They are seldom equaled and never surpassed in flavor or keeping. In time these apple orchards will become veritable gold mines to their owners. Of late many Eastern people are moving into that part of our county to make it their home. They bring with them their Eastern ways of thrift and industry and are a very desirable class of settlers. They are well pleased with their surroundings."

A NEW dipping apparatus, designed by Mr. Geo. A. Fleming, is in use in the Visalia Fruit Exchange and is thus described by the *Delta*: "The dippers are made of sheet iron sieves, and are attached to endless chains. The prunes are rolled down into the dippers at one end of a long trough. The chain conveys the dippers through a vat of hot water to thoroughly cleanse them of dirt and then rise up over a partition in the trough and descend into another trough, filled with a liquid preparation, which gives the prunes a glossy appearance. At the other end the prunes are dumped into the boxes, while the empty dippers pass over the trough to be filled again. The operation is interesting and meets all requirements. The dippers pass through the baths slowly, and are thoroughly treated before ready for packing. The capacity of the dipper is from thirty to forty tons per day. The capacity can be increased by lengthening the trough, if necessary."

THE grape crop in the Lodi district is far surpassing expectations. Every day for the last three weeks, says the *Sentinel*, the shipments from here have averaged about two cars per day. This is proving over again the old saying that damages of this kind are always overestimated at first. The yield this year is greater by considerable than it was at first thought, and the shipments are greater. This, of course, is in part accounted for by the fact that many more vineyards are now in bearing than were last year. The quality of the grapes is first-class. The Tokays, which form the bulk of the shipments from here, are especially good. The rain that came a few days ago did enormous damage to that especial kind of grape. They are so large and grow in such thick bunches that the least amount of moisture will cause them to mould and burst. The result is that Tokay shipping is about done for this season, for after being once injured in this way they can not be shipped. The wine grape is not injured by the rain; being of a different and hardier nature, it does not yield to the inclemencies of the weather as easily as do the table grapes.

REDLANDS correspondence: It is now very evident that this is to be the earliest orange season in the history of the State, beating the record of last year by nearly a month, although last year was two or three weeks earlier than usual. Ordinarily this would be no advantgae to the State, as it would simply force our fruits into the Florida season and thus create undesirable competition. But now that Florida for a few years is producing little or no fruit, the markets are almost devoid of oranges for the holiday trade. Last year Eastern buyers were here begging for fruit for the holiday season, and carload after carload of green fruit was sold at big prices. The fruit was not fit to eat, but it sold readily. Of course, everybody here knows that the fruit will not be ripe before January, even this year, but it will have the advantage over last year of not being quite as sour and of being well colored. It is expected that shipments will be made by November 5th. It is hoped that the Eastern buyers will keep their heads better than last year and not so flood the markets with inferior fruit before the holidays that prices will be demoralized for a couple of months afterwards.

Experimenting With Pasteur Virus at Fresno.

The experiments with the Pasteur virus, designed to accomplish the extermination of squirrels, rabbits and other animal pests, are still being carried on by Veterinary Surgeon Edwards. The virus has proved wonderfully successful on the ranch of Alonzo Church, on the west side. In a fertile bottom Mr. Church planted a crop of alfalfa, but the squirrels and gophers completely ruined it. Mr. Church thought his land would always be pest-ridden and worthless, for despite his efforts he could not destroy the voracious little rodents.

Dr. Edwards heard of the case and paid Mr. Church's land a visit. He placed a small quantity of virus in each of 300 squirrel holes, and the pestiferous animals, totally unsuspicious of the deadly character of the stuff, greedily ate the bread which had been soaked in the poison. Many died within a day or two, and the malady created by the virus was communicated to every squirrel on the ranch. Now Mr. Church's alfalfa land is practically free from the presence of squirrels, and the rodents on neighboring places are rapidly succumbing to the infectious disorder.

At the Oothout vineyard Dr. Edwards was equally successful, many squirrels dying very shortly after having partaken of the poisoned bread. Those which did not die immediately moved, in an ataxic condition, in and out of their burrows, and did not seem at all delighted with their strange experience.

Within a day or two Dr. Edwards will give the squirrels on the county farm a surprise party, and will then commence to experiment on the rabbits which infest the county.—Fresno Expositor.

From an Independent Standpoint.

Mr. Gladstone's arraignment of the British Government for its failure to act in behalf of the persecuted Armenians would come with better grace if his own periods of authority had not been marked by a policy similarly vascillating and timid. The Minister who made the sufferings of the Danubian provinces the subject of a hesitating and shifting diplomacy is scarcely the man to grow eloquent in criticism of the course of his successor in the matter of Armenia. But if what Mr. Gladstone now says might better come from somebody else, it is nevertheless entirely true that the British Government owes it to civilization and to humanity to put a stop to the unspeakable cruelties in Armenia.

Here are the primary facts: Six centuries ago the empire of the Turk was extended by conquest over the then fairest regions of Christendom. The native races, generally speaking, have declined the religion of the conquerors, and to this day cling to the Christianity which was imposed upon their forefathers by the Roman Empire. In earlier times the Turk allowed his subjects to worship whom or what they pleased, so long as they obeyed his rule and paid tribute; but the later practice has been to give the Christian people their choice between extermination and the Mohammedan faith. One province after another has been called upon to face this alternative. Some have yielded and some have perished. In three centuries uncounted millions have gone bloody to their graves to appease the vengeance of a tyranny in whose philosophy there is no such thing as mercy. The Christian world took heed of these horrors about half a century ago, and by that time the Turkish power had run its course and was, in the nature of things, ready to fall to pieces. But it was discovered that Europe had, or thought it had, an interest in keeping it—outworn relic of barbarism as it is—in existence.

Here is the reason: If the Turkish empire should go to pieces, its dismembered parts would fall naturally into possession of the contiguous countries; and the greater share, in the very nature of things, would go to Russia. Geography, identity of sectarian Christianity, ten thousand affinities of blood and tradition—these forces would all lead directly to Russia. It would, of course, give her Constantinople and, with it, access to the Mediterranean; and it would carry her southern frontier down to the line of British dominion in southern Asia. Now, all the other European nations—unless just now it may be France—are jealous of Russia; and they do not want to see any aggrandizement of a country whose ultimate purposes they all fear and whose power is already too great for their peace of mind. England, particularly, does not want to see any enlargement of Russian power. She does not want Russia as a near neighbor in Asia. And of all things, she wishes to prevent the growth of Russia as a sea power—an inevitable consequence of the acquisition of Constantinople. In the English political mind the prospect of Russian expansion to India on the south and to the Mediterranean on the west is a horrid vision of Russian dominance on land and sea and of the decay of her own empire.

Therefore: For half a century it has been the policy of England—and she has brought all of Europe excepting Russia and France into league with her—to preserve the autonomy of Turkey at all hazards. Province after province has sloughed off nominally into independence, but actually into alliance with Russia—for example, Bulgaria, Roumelia and Roumania—but, in the main, British diplomacy has succeeded up to the present time. It has been a tedious and a nasty business. It has called, on the part of England, for prodigious sums of money; for military aid in two bloody wars; for a shameful consent (under every English minister of recent times, including Gladstone) to horrible barbarities against defenseless Christian peoples and for the quiet acceptance of unnumbered national indignities. Like a spoiled child, well knowing that it is too weak for punishment, the Turkish Government is always spitting in England's face, and in return is always being threatened with "bogies," which it has learned to know will never appear.

Thus it is that recent protests on the part of England in the matter of Armenia, do not in the least disturb the progress of events in Turkey. The Turk knows that, no matter how fiercely the Lion may growl, he will not bite. He knows that, whatever he may do in Armenia or elsewhere, he may safely rely upon the support of England, for she is too fearful of advantage to Russia to permit him to fall. Secure in this belief, he goes on doing his wicked will. He proposes to bring the Armenians to subjection or to wipe them off the face of the earth. His Kurdish militia—each soldier a combination of the brigand and the savage—have been told to harry the people to death, and they are doing it with a vengeance. It would be impossible to exaggerate the cruelties they are now suffering. All industry is at a standstill and the people are literally starving. No man is safe from murder. No woman is safe from assault. Squads of Kurds ride about the country, intoxicated with evil passions, and no hand seeks to stay them. Christendom may, in time, wake up to its duty; but it may be too late. Of one thing the world may be sure—England will not lead the way. It is not because England is afraid, for England is never afraid; but she believes the fall of Turkey would menace her own power; and that she holds above every other consideration in the universe.

When we wrote a week ago of the San Francisco local political situation one of the rival Republican conventions (that dominated by Mr. Spear and his associates) had named Mr. Horace Davis for Mayor, and it was believed that the Spreckels convention would confirm the nomination. But this hope failed, for the Spreckels crowd (which appears to have gotten away from Mr. Spreckels) put in the field a man of their own, Mr. Chas. L. Taylor. Mr. Davis, naturally unwilling to be the candidate of a faction, thereupon withdrew and his place at the head of the Spear ticket was taken by Mr. H. P. Sonntag. Thus there are two nominally Republican candidates in the field. The Democratic convention, it will be remembered, as a compromise between its respectable and mercenary elements, had named Mr. James Phelan for Mayor and he had accepted; but later on the "practical" crowd got control and finished the ticket by putting up a set of disreputables for Supervisors. This was too much for Mr. Phelan. He has no ambition to be Mayor with a Board of Supervisors controlled by the bosses and has informed the convention—which is a body of continuous sessions—that he will withdraw unless a set of reputable men men are put up to make the run with him. So, as we write, the matter stands on the Democratic side. The Populists have also had a convention and have named a Mr. Dimond, whom nobody ever heard of, for Mayor and it is said that the Buckley convention will endorse him. The only hope of this confused situation is that decent men will lose sight of party names and factional claims and, falling back on their primary instincts, will vote for the best men without reference to the circumstances of their nomination. If Mr. Phelan can secure the co-operation of respectable company and so remain in the field, it is the general belief that he will be elected.

California Angora Goat Breeders' Association.

The regular annual meeting of this veteran association was held at Sacramento during the State Fair. The attendance showed an increasing interest in this great and growing industry.

President C. P. Bailey was in the chair and under the good of the order reported an unusual advance in the price of mohair during the past year, an advance from 24 to 65 cents per pound in five months in Bradford prices. These were lower and higher prices than had been reached in the United States. Here good domestic mohair has sold from 35 to 48 cents and short six months' growth from 15 to 20 cents per pound. The demand has been good and sales quick for the high grades, but the low grades have been neglected. Mr. Bailey said that in May last he had visited New York and Washington in the interest of the business, and that while in the latter city he had interviewed the Pacific coast delegation in Congress and called their attention to the fact that, as mohair had gone onto the free list with wool under the Wilson bill, this association would expect them to see to it that mohair and wool should again receive ample protection under the new policy of protection which we now expect to soon see inaugurated. He called attention to the fact that the Turkish embargo had been temporarily raised, and that 200 head of Angora goats had been sent from Turkey to South Africa. He showed samples of fleece from the get of the Angora bucks recently imported by him from South Africa, and showed that the fleece not only had good length and luster, but that it was more dense and heavy than the fleeces on Angora goats formerly brought to America.

Treasurer J. M. Wimmer reported that he had this year sent his clip of mohair direct to the Sanford mills in Maine and that he had received from 36 to 39 cents per pound for same and that the managers of the factory had complimented him on the fine condition and general good character of his fleece.

Secretary C. E. Bailey reported that he had received a great number of marked copies of various papers containing finely written articles on the mohair industry, among which he mentioned the PACIFIC RURAL PRESS, Portland *Agriculturist*, *American Wool Manufacturers' Bulletin*, *American Agriculturist*, *Pacific Tree and Vine* and many others. He also reported that he had received applications from Angora breeders in Oregon for copies of our constitution and by-laws for the purpose of organizing an association similar to this for the State of Oregon.

The following resolutions were unanimously adopted:

WHEREAS a great and irreparable injury has been done the wool and mohair industry of this country by the tariff legislation during the present administration, now therefore be it

Resolved, That we heartily join with the American wool growers in demanding of our National Congress a repeal of the Wilson bill and a speedy return to the protective tariff of the McKinley bill.

Resolved, That the thanks of this Association be and they are hereby tendered to the publishers of the various papers above mentioned by the secretary for their reliable and well written articles on the mohair industry.

Resolved, That the proceedings of this convention be published in the PACIFIC RURAL PRESS.

The following officers were duly elected for the ensuing year:—C. P. Bailey, president; E. V. Cowel, vice-president; J. M. Wimmer, treasurer; and C. E. Bailey, secretary.

Weather and Crops.

The following synopsis of the weather and crop conditions during the week ending Monday, September 28th, is issued by the State Agricultural Society in co-operation with the U. S. Climate and Crop Service, James A. Barwick, section director:

The rains of week before last affected the crops more or less throughout the northern half of the State. In some sections the damage was serious, and what were small crops were further reduced.

Raisin drying has been greatly retarded by damp weather, and in some sections decay is feared before the crop can be cured.

The almond crop has nearly all been harvested, and proves to be a good one.

Sacramento Valley.

BUTTE COUNTY (Pentz).—Highest temperature, 92°; lowest, 50°.

COLUSA COUNTY (Colusa).—Bad weather for drying prunes. Farmers are busy now in getting ready for plowing for next season's crops. (Grand Island).—Farmers are preparing for early plowing and sowing.

YOLO COUNTY (Wheatland).—The rains of last week caused considerable loss to raisin and hay men.

PLACER COUNTY (Lincoln).—So far as we have been able to ascertain, the rain Saturday last (19th) did not do nearly so much damage as was reported. It caught a small amount of grain and hay in the fields and damaged table grapes, but as the latter were nearly all picked the loss will be small. Raisin men are rushing their work and pickers are in demand. (Weimar).—The recent rains damaged the grape crop to some extent in this vicinity. (Sheridan).—Hop picking came to a premature close last week on account of the poor quality of the hops.

SACRAMENTO COUNTY (Folsom).—The damage to fruit in this vicinity by the recent rains was not very great.

YOLO COUNTY (Woodland).—The almond crop has nearly all been gathered. The weather since Wednesday has been favorable to fruit picking and drying. Most all the prunes will be off the trees by the end of next week. The drying of Muscatels and Sultanas has just commenced. A week ago Sultanas could be bought in large quantities at $10 per ton; now most of the growers will try to make raisins, although the chances are against them. The picking of wine grapes is in full blast and about $14 or $15 per ton is realized. (Dunnigan).—The north wind has been the salvation of the grape crop. The raisin crop of Yolo will be small. (Davisville).—The fruit and grain crops are not being benefited any by the present weather, and the injury from the late rain will be considerable.

SOLANO COUNTY (Suisun).—Last Saturday's rain did no good, and possibly a great deal of damage. (Isleton).—No damage has been done in this section from the rains.

SUTTER COUNTY (Yuba City).—The heavy rains of the 19th did some slight damage to the bean crop in southwest Sutter. The grapes also suffered.

Napa, Sonoma and Santa Clara Valleys.

NAPA COUNTY (Calistoga).—The vineyards we examined in the valley lead us to the conclusion that, instead of an increased crop over the expectations, they will not yield a quarter of a crop, owing to the frosts; and even this will not be of first quality, as the grapes are ripening very unevenly.

SONOMA COUNTY (Healdsburg).—Hop picking will be over in Sonoma county about the middle of next week. The crop is turning off fairly well, and the quality is excellent, but no sales are reported. (Santa Rosa)—The rain last Friday was general all over the county. No serious damage was done, however, to hops or fruit.

SAN BENITO COUNTY (Hollister).—The hot weather of the past few days has ripened apples and pears very rapidly. Pears have not been injured as much by the codlin moth as apples, but the Winter Nelis pears have been injured in some orchards by rust.

SANTA CLARA COUNTY (San Jose).—The weather has been

very discouraging to the fruit driers. The threatening conditions have kept them stacking and unstacking during the greater part of the week. The rain has softened the stems of the late peaches, causing them to drop before they are fully ripe. Prunes are drying slowly.

San Joaquin Valley.

SAN JOAQUIN COUNTY (Acampo).—The weather is very warm and sultry—102° Saturday at 1:30 P. M. Vineyardists are packing grapes, and the recent rain which was supposed to have done so much injury to the fruit of the vine is now considered by some to have benefited it by adding the color. The grapes are in fine order and a car a day is being shipped.

FRESNO COUNTY (Fresno).—Good raisin-curing weather prevailed during the week.

TULARE COUNTY (Porterville).—A slight shower of rain fell Tuesday, but not enough to do any harm to the drying fruit.

Southern California.

LOS ANGELES COUNTY (Downey).—The walnut harvest of this section has commenced. The outlook is for a large crop, and of superior quality. (Compton)—There has been no material change in the weather since last report, except it is slightly cooler. Alfalfa is looking well. Apples are about all gathered and are selling at good prices.

SAN DIEGO COUNTY (Poway).—Highest temperature, 86°; lowest, 52°; average, 60.7°. Weather cool till the 24th, when there was a considerable increase in temperature quite favorable for drying the raisin grape. Prevailing wind west; no rainfall.

Coast Counties.

SAN LUIS OBISPO COUNTY (San Luis Obispo).—We have had a very warm week, just such weather as the crops required, particularly the bean crop. Ten days or two weeks of the same weather will make our bean crop secure. Corn, potatoes and pumpkins are doing very well. Grapes that were doubtful are now safe. Pasture holds out well.

MENDOCINO COUNTY (Pomo).—Frost on the 12th damaged corn and vines; .50 of an inch of rain fell during the week; highest temperature, 82°; lowest, 52°.

The Dairymen's Convention.

(*Continued from page 209.*)

saw no reason why the tuberculin could not be manufactured by the proper department of the University, providing due authority and necessary facilities were provided. He believed that some system of treatment of the cattle during the test, which would conform to California conditions, should be devised.

Tuberculin Test in Santa Clara.—Dr. Spencer, San Jose, stated that he had tested about 3000 cows with tuberculin—tested each individual of each herd and kept and forwarded data, together with reports of autopsies of slain animals, to the Bureau of Animal Industry at Washington. He has slaughtered about 250 cows out of about 300 reactions, and in a single case only failed to find tubercular lesion. He feels that dairymen should be indemnified for their losses and that tuberculin test should be universal. Sanitary inspection and enforcement of sanitary conditions should be undoubtedly had, but the tuberculin test alone can determine and eradicate the trouble.

Dairy Feeding.—Professor M. E. Jaffa of the State University delivered a lecture upon the relative value of food products of California. He had prepared a large chart, showing the result of analyses of mixed feed, shorts, middlings, wheat bran, rice bran, cocoanut meal, burr clover, corn and beet pulp. The latter was very highly commended.

CALIFORNIA CHEESE MAKING.

J. P. Pearson, superintendent of the Fallon creamery of Tomales, read a paper on the development of the cheese industry of California, as follows:

The statement has been made that the prosperity and strength of a nation are dependent upon its agriculture. Agriculture without dairying would be incomplete; and, furthermore, the manufacture of cheese goes far towards upholding the high rank which dairying holds among the industries of this commonwealth, because into the manufacture of cheese goes the summer surplus of milk, which is stored up for future consumption, and it is with this question, as it is with many others, that the more we study it the more interesting does it become to us, and we are awakened to the fact that the more thoroughly we apply ourselves to this industry the greater will be the results accomplished, and the prices of our goods on the markets of the world will of necessity rise simultaneously.

In referring to the cheese industry of California and its development, allow me first to call your attention to a few facts in figures shown by the report of the chief of the dairy department of animal industry of the United States. The manufacture of cheese in California in 1850 was 150 pounds; 1860, 1,343,689 pounds; 1870, 3,395,074 pounds; 1890, 4,962,797 pounds. Later reports show the manufacture of 1895 to be 9,000,000 pounds.

In the United States the standard cheese is what is known as cheddar. By this I mean to say that in commerce cheddar cheese is always understood when no special variety is specified. The same may be said of Great Britain and Canada. The quality of any article is what determines its market value. Cheese made in California does not bring the highest price paid for this article on the San Francisco market. I am referring to this subject in general, as there are some instances where the above is not the case. This can be safely stated, however, to be the case in 8,000,000 of the 9,000,000 pounds of cheese manufactured in California during the year 1895. These 8,000,000 pounds of cheese commercially known as California flats were sold on the home market at prices ranging from 3 to 6 cents per pound lower than Eastern cheese and the best California cheddar. It is well to say here that only the best Eastern cheese is shipped into this market. If we average the difference in price between the cheddar cheese and the common California flats, we have a difference of 4½ cents. We will call this 4 cents per pound, and here you have a loss of 4 cents per pound on 8,000,000 pounds of cheese, which amounts to $320,000 per annum. This $320,000 is lost to the dairymen because they do not make a first grade of goods, although they have the same material to start with and the cost of making the finest grade of cheese is no greater than that of producing the poorest. All that is necessary to save that $320,000 to our dairymen, and in addition to supplant the Eastern cheese on the home market, is better and more uniform methods, more care and an organized system of basic principles and higher education. No State or country that I have seen is better adapted to the dairy industry than California, with its green pasturage the year around, clear spring water and healthy climate.

We see by the figures given in the above the rapid increase of this industry. This will soon reach a point where the home consumption will not take it all. Then it will be necessary to either shorten the product or become exporters, and in order to export to any advantage a better cheese must be made. There is no reason why California cheddar and fancy cheese should not gain a reputation equal to California fruit.

In countries famous for the production of high grade cheese we find the localities for this product amongst the high rolling lands and mountains. Take our own States of New York and Wisconsin and take the highlands of Scotland and France, the Alps of Switzerland and the mountainous country of Sweden. These conditions exist also to a marked degree in California. We have only to take advantage of these natural conditions. But we must bear in mind that it also requires human intelligence and constant study to inform ourselves of the causes which directly and indirectly underlie and bring about the fruitful result of our labor. It is time to inquire why the State of California with its grand resources should hold a lower rank in its quality of cheese than our less favored competitors. What we are after are results. In order to develop the cheese industry to its highest the quality of the bulk of the cheese now made in California must be raised. To accomplish this result more uniform and better methods must be adopted, and to bring this about a system of education should be devised. This paper is intended for discussion, and I will offer for your consideration as a means to bring about more uniformity in the manufacture of cheese a system of education similar to that adopted in Wisconsin and Canada. Place one or more instructors in the field. These instructors to be thorough and practical creamerymen who shall visit cheese factories and creameries and aid and assist the manufacturers by advice and their personal presence when so required; the head of this department to issue a monthly bulletin of instruction to each factory and creamery, advising them of the best methods to follow for the ensuing month in order to accomplish the best results.

In connection with this instruction bureau should be established a dairy school, where for three months of the year instructions can be given to creamerymen of the State in the more advanced methods of better cheese and butter making.

Major Alvord on California Cheese.—Major Alvord, in answer to questions, spoke very favorably of California cheese so far as he has had opportunity to examine it, and he thought California should take a leading place in making cheese. He favored sticking to the full cream cheese made in small shapes, and said that often a profitable business could be worked up by farmers serving routes among their neighbors and friends. If an effort be made to push small cheese as a convenient and very desirable article of food, he believed local consumption could be very much increased.

Dairy Institutes.—Mr. E. F. Adams of Wrights, organizer of Farmers' Institutes for the State University, addressed the convention in advocacy of meetings and advised that dairymen who want institutes held in their localities should apply for them without delay, as the dates and places must soon be selected.

The convention is still proceeding as this week's RURAL closes its forms. We shall have fuller account of the transactions later.

A NEW method of packing butter for shipping long distances is that of putting it in a box made of six sheets of ordinary glass, all the edges being covered over with gummed paper. The glass box is enveloped in a layer of plaster of Paris, ¼-inch thick, and this is covered with specially prepared paper. The plaster being a bad conductor of heat, the temperature inside the hermetically sealed receptacle remains constant, being unaffected by external changes.

Observations at the State Fair.

TO THE EDITOR:—So far as I could judge from observations made within my hearing, by both exhibitors and visitors, a three-weeks' fair is deemed too long, the general opinion being that a fair of two weeks' duration would be quite long enough to give every one an opportunity of seeing all there was to see.

The show of horses, judging from what was seen on parade during the last week of the fair, could hardly be considered up to the standard, in quality at least, of former years, however they might compare in numbers. As to draft horses, that were really worthy the name, they could be counted on the fingers of one's hand.

Such a state of affairs in regard to heavy horses shows a great falling off, as compared with exhibits of a few years ago, when there would be more owners, some of them exhibiting up to a dozen head apiece, than there were of single animals this year on exhibition. This falling off in numbers is undoubtedly caused by two reasons, the disinterestedness caused by unremunerative prices and the fewer numbers that are bred—another of the effects of low prices.

The time will surely come, and is probably not far distant, when there will be a scarcity of heavy horses big enough for hauling the heavy loads now required of them in our largest cities. A drayman said to me only a few days ago: "We have to do the hauling across the city for so little nowadays that we can only make it pay by hauling very heavy loads, something like five to seven tons with one pair of horses, and it now looks as if the breeder who has stuck to the breeding of horses fit for such work all through the times of low prices, is the one most likely to be rewarded for his tenacity of purpose in sticking to the one breed he has fixed his fancy on. True, the low prices have been, and are still discouraging to the breeder. It is not easy, perhaps, to believe just now that there is likely to be any profit in horse breeding, but then horses are not raised up to be fit for work in a year, or even in two or three years, and the man who has been looking ahead stands in readiness to be benefited by the rising market—when it comes."

The same remarks in regard to scarcity of draft horses are equally applicable to high class carriage horses, the breeding of which, however, hardly fits in so well with the work of the farm as does the breeding of that heavier description above referred to, and which are able to do something towards earning their living at the higher kinds of farm work, if required, by the time they are three years old. Not only that, but there is another advantage, not equally applicable to the higher breeds, in being able to work the brood mares close up to the time of foaling, in consequence of which the man who has two or three good mares can raise a colt or two a year without feeling the cost too much, and without having his farm work interfered with, when otherwise well situated for the purpose. In this respect he is placed at an advantage over the breeder who keeps his mares idle all the time, a system which can only be followed with any prospect of profit in handling the very highest class of horses, or such as sell for fancy prices. Not that the class of mares that are suitable to breed good, strong, active carriage horses are not a good kind to have engaged in farm work, but, on the contrary, they are or ought to be of the very best kind for getting over the ground, and I remember the time when it was thought to be good training for a young horse, that was intended for a high stepping carriage horse, to put him to work harrowing on rough or cloddy land—it taught him to lift up his feet and helped his knee action.

The lighter kinds of horses suitable for riding or driving were much more numerous than either of the other kinds; some had most likely been bred for speed and missed.

As live-stock shows are intended to bring out, develop and set before the public the most perfect type of an animal, of whatever breed, it is the duty of exhibitors to show only good animals in proper condition for showing. That is what the people have a right to expect who go to see these shows, be they cattle, horses, sheep or swine. It is arrant nonsense to say, as one has often heard it said, that stock ought to be shown just as they were kept at home for every-day use. If that was the case, where would be the attraction? Did any one ever see a skinny-looking screw of a horse that he would call a nice one? Then just as well say that a lot of poor-looking animals would make up a good show.

We have had some horse shows in San Francisco, and are to have another soon. At these shows it looks to me as if as much, if not more, attention was given to fancy and stylish harness, "traps," carriages and such like things than to the horse himself. Why not give all such things the go-by and make a real show of horses—first, at any rate. Let the noble animal have his just dues; and, if to finish up with, there are those who prefer to see him "fixed up" in gaudy trappings, let them have one special day for that purpose, and no other, but let it be the horse first, last and always at the horse show.

R. A.

AGRICULTURAL SCIENCE.

Important Investigation of Sacramento Valley Sugar Beets.

The awakened interest in beet growing at several points in the Sacramento valley has now secured some important points to go upon through analysis of several groups of specimens submitted to Prof. E. W. Hilgard, director of the University Experiment Station. The reports of these investigations have already been sent to the parties requesting them, and their publication will bring the important information to the attention of others who may be interested. The subjoined comments are the conclusions by Prof. Hilgard from the observation of the beets and from the results of the analyses made by Prof. M. E. Jaffa:

SUGAR BEETS FROM YUBA COUNTY.

	No. 217.	No. 218.	No. 219.	No. 220.	No. 221.	No. 222.
Locality	Wheatland	Wheatland	Wheatland	Wheatland	Wheatland	Wheatland
Variety	Klein Wanzlehener		?	?	?	?
Sent by	S. Kuster	D. Frazier	P. L. Hutchinson			T. H. Thomas
Seed sown	March 12	March 28	March 1	February 15	March 15	March 2
Harvested	July 15	August 1	August 3	August 3	August 3	August 3
Date of arrival	July 18			August 7		
Date of analysis	July 19			August 7		
Condition			Somewhat dry			
Weight of four beets (grams)	1980	2275	2040	1130	2485	1810
Average weight of one beet	495	569	510	226	621	452
Specific gravity of juice	1.0610	1.0810	1.0730	1.0824	1.0810	1.0909
Solid contents (spindle)	15.10	19.50	17.70	19.80	19.50	21.70
Cane sugar, per cent	13.84	17.98	*	18.70	*	*
Purity coefficient	91.65	92.20	*	94.44	*	*
Ash, per cent, in juice	.96	.63	.73	.83	.76	.86

* Beets too dry for reliable sugar determination.

SUGAR BEETS FROM SOLANO COUNTY.

	No. 235.	No. 236.	No. 237.	No. 238.	No. 239.	No. 240.	No. 241.	No. 242.	No. 243.
Locality	Dixon	Dixon	Putah Creek	Putah Creek	Dixon	Sweany Creek	Dixon	Dixon	Dixon
Variety	French	German	German	French				French	German
Sent by	W. Z. McBride		Judge Curry		J. Rohwer	F. G. Rogers	J. A. Little	Joachim Schroeder	
Seed sown									
Harvested									
Date of analysis				September 1					
Date of arrival				August 30					
Condition	Good				Fair				
Weight of four beets (grams)	2545	2750	(3) 3950	7400	2520	3452	3700	4000	2560
Average weight of one beet	636	687	1316	1850	630	863	935	1000	640
Specific gravity of juice	1.081	1.0730	1.0700	1.0583	1.0596	1.0600	1.0739	1.0717	1.0770
Solid contents (spindle)	19.30	17.70	17.00	14.30	14.60	14.70	17.90	17.40	18.60
Cane sugar, per cent	16.69	14.67	13.11	11.54	12.17	12.14	14.20	15.19	16.05
Purity coefficient	86.49	82.88	77.12	80.70	83.35	82.60	79.33	87.30	86.29
Ash, per cent, in juice	1.00	.72	.89	.86	.91	.80	1.10	.85	.82

SUGAR BEETS FROM YOLO COUNTY.

	No. 244.	No. 245.	No. 246.	No. 247.
Locality	Woodland	Yolo	Yolo	Yolo
Variety	Seed from Spreckels, Watsonville			
Sent by	W G Hunt	G H Hoppin	C R Hoppin	
Seed sown	March 5	March 5	March 5	March 5
Harvested		September 3		
Condition		Good		
Date of arrival		September 4		
Date of analysis		September 4		
Wt. of 4 beets (grams)	3132	2600	3620	3120
Av. weight of one beet	783	650	905	780
Specific gravity of juice	1.0713	1.0604	1.0695	1.0540
Solid contents (spindle)	17.30	14.80	16.80	13.30
Cane sugar, per cent	13.63	10.40	12.98	8.73
Purity coefficient	78.78	70.27	77.20	65.64
Ash, per cent, in juice	.89	1.34	.96	1.09

COMMENTS BY PROF. HILGARD.

Beets from Yolo County.—Of the beets from Yolo county, Nos. 244 and 246 are fair in sugar percentage and purity. It seems as though they were not entirely mature when gathered, and another assay might be advisable. They were mostly rather large for the best test, being between 1½ and 2 pounds weight. If planted more closely and fully matured, they would probably give a more satisfactory result. Nos. 245 and 247 would be rejected by the factories. These beets were collected for analysis by W. R. Hoppin, Berkeley.

Beets from Yuba County.—These beets were on the way four days and thus the sugar determinations doubtless give somewhat too high a figure, even in the cases of the samples which were assayed, three of the samples being altogether too dry for any useful test. But even making allowance for this circumstance, the high purity coefficient shows the perfect adaptation of the land that bore them for the production of high-class beets. The roots were of the most desirable size. The samples were sent by J. H. Durst of Wheatland.

Beets from Solano County.—The beets from Solano county gave, as a whole, very satisfactory tests, especially when the oversize of some of the samples is considered. This is especially true of No. 237 from Putah creek and of No. 242 from Dixon, the latter being fully up to and even a little above factory requirements, despite overweight of nearly three ounces above the maximum admitted. This is quite a remarkable showing, and proves an eminent adaptability of the Putah creek lands to sugar-beet culture. No. 235 is a typical sample of an excellent, high-grade beet as to weight, sugar percentage and a very good purity coefficient. The samples were sent on behalf of the Northern Solano Sugar Beet Association by A. L. Henry.

SUGGESTIONS FOR SUBMITTING SAMPLES FOR ANALYSES.

The following are directions for forwarding samples of sugar beets to the University:

Samples should be sent by Wells, Fargo & Co.'s Express, charges prepaid to Prof. Hilgard, Agricultural Experiment Station, Berkeley, Cal., and marked "Beets for analysis."

The sample should consist of *at least* four beets, representing the different sizes. If the beets are very small indeed (less than one pound), send six beets in place of four. No more than five or six samples should be sent on the same day.

The beets ought to be forwarded as soon as possible after harvesting so as to prevent their drying out.

The date of planting the seed and of harvesting the beets should accompany the sample, also the name of the variety and all particulars of the growth of the beets.

Specific data relative to the soil should be included in the sender's report.

HORTICULTURE.

The Pomelo.

By I. H. Cammack of Whittier at the Farmers' Institute at San Gabriel.

The Interest in the Fruit.—There are two or three reasons why this, as yet comparatively rare, citrus fruit attracts much attention. It has a reputed medicinal value. It has begun to attract some commercial attention. It has some pleasant eating qualities, *sui generis*. Both horticulturally and commercially speaking it is yet in a rather experimental stage, hence its comparative novelty places it in an attitude of peculiar interest before inquiring and progressive horticulturists. Besides, Yankee inquisitiveness both in and out the orchard wants to know all about the novelty. Perhaps, however, it is not exactly fundamental to use the word "Yankee" as applying to original curiosity, for Paul speaks of a city full of people—Greeks—all of whom, strangers included, spent their time in nothing else "but either to tell or to hear some new thing." But as the phrase "Forbidden Fruit" is sometimes applied to the pomelo, one is led to conclude that curiosity dates still further back to the primitive female orchardist. However, long live curiosity, still longer live its earnest child, investigation; and many thanks to Dame Nature who so generously affords the active intellect of man so wide and inexhaustible fields of investigation, study and research. He is certainly a dull son of toil who does not often inquiringly peer into new avenues of soil and fruit cultures. It is the primeval domain of intellectual activity and it is reassuring and refreshing to now and then find so many active business men, city men, breaking the bands of professional life and returning to gardens and fields and orchards—the normal, natural, original pursuits of their first parents. Long live amateurs in horticulture! It is legitimate to imagine what is a pomelo; what is it good for; will its culture entitle one to the privilege of eating honest bread?

History of the Pomelo.—The Pomelo is a kind of ancestral king among citrus fruits, one whose history can be traced back to the East Indies, where the varieties, being propagated largely from seeds, are too numerous and varying to admit of a wholesale description at all satisfactory, and not very practical to the California orchardist who cares very little for any except the few selected strains of most merit. Some one or more of the larger ones were brought to the West Indies by Captain Shaddock, and since then have been dubbed shaddocks. As these larger strains proved less desirable they have been dropped, except now and then a rare tree preserved for its novelty. It is said that the modern name (which H. E. Van Deman pronounces the correct one) pomelo, is a contraction of *pomummelo*, melon apple, doubtless so named on account of its large size, as it is said that some East Indian fruits have attained the monstrous dimensions of 24 inches in circumference, and weigh perhaps 10 pounds. I can readily admit the size quoted, for I have certainly seen shaddocks 18 or 20 inches in circumference grown near Rivera. The term "grape fruit" seems to me far-fetched and quite unfortunate. Its origin is generally explained as resulting from the habit of the fruit forming in clusters, a characteristic perhaps not much more marked than oranges; but one writer, presumably drawing on his imagination, explains the term as arising from the grape-like flavor of the fruit. It seems that both names illustrate the impropriety of using compound descriptvie terms in the place of a simple proper noun.

Character of the Fruit.—A number of strains of the East Indian pomelo, sometimes introduced via Jamaica, the Bahamas or South America, are cultivated in Florida and this State. Some new strains, by hybridizing with the sweet orange, and doubtless sometimes influenced by the qualities of the wild bitter orange of Florida, have been prominently advertised in the past few years. All of them are characterized by more or less bitterness in the juice, especially the rind, although in the Aurantium pomelo this quality is almost entirely eliminated. Briefly described they are usually a large yellow, bitter orange, varying much in these three characteristics.

The Taste for It.—To the novice, who has not cultivated a taste for bitter, or beer, or imperfectly cured olives, doubtless the milder strain, as the Aurantium, would be the most enjoyable at first. The bitter which is mingled in a sprightly and generally very agreeable sub-acid juice, has the quality of lingering on the palate agreeable or disagreeable according to taste. It is reputed to possess medical qualities of value, but I am not able to say to whom this bitter is most valuable, the grower or consumer. If it is an illusion, perhaps it is too pleasant and harmless to require analysis or exposure at my hands. I half question whether scientific chemical analysis, and the authority of a therapeutic enunciamento, would add noticeably to the vigor of a fad in behalf of their sale. Let them sell. I think it is the concurrent testimony, however, that consumers of this fruit find their taste and desires for the fruit increases upon use, as in the case of California pickled olives. It does not seem to me, however, that with children the pomelo will be popular like the olive or orange, hence this will very materially affect general demand and consumption. If the demand for this fruit must be dependent upon a partially cultivated taste, or must come from those who seek it medicinally, and if the consumer will not eat so freely as of the orange, and must largely leave the consumption of the children out of count, then the demand is largely reduced. And I imagine a market glutted with pomelos is helpless compared to one overstocked with oranges, because with the latter a reduction in price will encourage consumption, but a reduced price on pomelos would not impart a taste, a desire for them, which already exists in favor of the orange. You may begin to infer I am not here to boom the pomelo. I would like to sell a good many trees to somebody able to buy them, who does not think as I do about their future, and who will get them somewhere to plant. I do not say I am right. I do say I happen to know that there has been a very large planting of them, both in this State and in Florida in the past two years, and this is saying nothing of Jamaica, the Bahamas, Mexico, Central America and South America. But there are doubtless hearers (or readers) of this paper who want to know what kinds of pomelos one should plant and some cultural hints.

Varieties.—As to varieties, I have already mentioned the smallest variety, the Aurantium, the most orange-like in size and taste of all. I do not specially recommend it, though it has its strong advocates, for it is my impression that the buyer of a pomelo to eat will not want one with more of the bitter than it possesses. I am favorably impressed by the Morsch's Seedless (not seedlees, however). The Triumph appears the leading favorite, as it seems to have about medium qualities all around.

Growth and Bearing—As to growth, the tree is vigorous, and should have 25 or 30 feet square space, at least as much as the seedless orange tree. This will vary with soils. of course. It will require the same care as the orange tree, and will stand about the same temperature as the lemon. The trees are generally reputed as wonderfully prolific. I have had them begin bearing the second year, in the nursery row. It is a beautiful tree; nearly all strains throw a large, vigorous and healthy-looking, dark

green and glossy leaf. It has no more immunity from pests than the seedling orange.

A Suggestion to Citrus Planters.—Now, in conclusion, let me say that I feel that this paper is of perhaps little interest except to those who may have contemplated planting this fruit, or who have already done so. In many things I am optimistic. If I wanted to plant an orchard of this fruit, I am pretty sure my wishes would doubtless have a tendency to make things as roseate in that direction as possible. The wish is so ofteu father to the thought that we do not always reason with unbiased minds. Personally, I conclude there is sufficient acreage of them planted. Then you say what shall a man plant? If you will allow me to suggest I would say, the most profitable planting now is drill holes that will raise artesian water. If people would stop planting citrus trees now and develop water for a while it would be wiser and more profitable than putting out more trees.

FRUIT PRESERVATION.

Processing Prunes in Europe.

Hon. Henry E. Dosch, one of the State Horticultural Commissioners of Oregon has written a letter to the *Oregonian* which will be read with interest by the prune producers of California even through our present ways of curing prunes do not admit of the application of the European frills which are described. It may be that some may desire to experiment with new forms of the product.

Mr. Dosch's Experiment.—While we shall not have much fruit to evaporate this year, yet we anticipate a good year coming, and as we must prepare for war in the time of peace, with a long winter before us for reflection and contemplation, it may not be amiss to consider the possibilities in improving our evaporated fruit products, to meet foreign competition at home and abroad, as well as the demand for better fruits.

Through the courtesy of R. Koehler, Esq., manager of the Southern Pacific lines in Oregon, I received several bound volumes on prune evaporation as carried on at this time in Germany and France. After careful perusal it leads me to the belief that this industry is receiving a great deal more attention abroad than we are apt to give it credit for, especially in the production of extra fine fruits, with which to recapture the partially lost trade of America and to prevent the sale of our own products, which have found a sympathetic market abroad, particularly in Berlin, where they sold for one mark per pound.

Rich People Want Fancy Products.—Inquiry and observation lead me to the conclusion that our well-to-do and rich people East are not consumers of evaporated fruits as now produced by us, and it is only the middle and laboring classes who are purchasers and consumers of it, and as they cannot afford to pay a high price for fruits, we shall have to cater to this trade. Now, in order to capture all consumers, we must produce the best possible fruits for the lowest possible price, and the better the fruit, the larger the consumption.

Steaming Before Evaporation.—With these facts in view, the people abroad set about experimenting in different ways with various results, until the Hon. E. Hoesch-Durren conceived the idea of "steaming" fruits prior to evaporation, and has succeeded in producing a most excellent article. Now, as our fresh fruits in Oregon are superior to theirs, we can still keep in the lead, if we take a little more pains in producing the evaporated article. The object of steaming the fresh fruit is manifold. It will open the pores of the skin to facilitate evaporation and prevent dripping, or, as Mr. Hoesch-Durren says, to prevent the loss of the aromatic juices and fruit meats, and obviates the necessity of dipping in lye solution, so objectionable; it makes the skin tender and eliminates that leathery substance found in most of our dried French prunes; it hastens evaporation; it requires less heat, and fruit will dry heavier or more meaty, than unsteamed fruits. This alone is a strong recommendation, and is worth all the trouble and expense.

After various experiments as to the proper time, he found that steamed prunes can be evaporated in 8 to 10 hours, with high heat, but did not make the desired article, but concludes that 16 to 20 hours, with moderate heat (140 degrees), and rapid circulation, will produce as fine fruit as can possibly be produced.

Prunelles.—Where labor is cheap, he says, prunes can be readily peeled and pitted, after steaming, which, when evaporated, make a confection called "prunelle," which is packed in small boxes, similar to our figs, and sold at fancy figures. The principal districts where these prunelles are produced are the departments of Lot and Garonne, in France; the prunes used being the Robe de Sergent and Petite d'Agen. The output amounts to 10,000,000 francs annually. One peculiar feature in the production of this fancy fruit is, that the trays are taken out of the evaporator once or twice and the prunes allowed to cool.

This, it is claimed, adds to their weight, and they will retain their aromatic flavor better than if allowed to remain in a continuous heat. When evaporating I always allow my fires to go out at night, thus reducing the heat to 70 degrees, and I find my fruits are always fine, heavy, aromatic, glossy, as if dipped in glucose, and alive; that is, when put into the bins, they crawl, as it were.

How to Steam Prunes.—He describes the steam apparatus as a tight box, which holds from four to twelve trays, one over the other; the steam is introduced at the bottom, and is let escape at the top, through a pipe, gauged at all times, so that but a slight steam pressure, one-eighth of a pound, exists within the box. Prunes are subjected to from ten to fifteen minutes; pears, fifteen to twenty minutes, and apples one and one-half to two minutes. Pears and apples need not be bleached with sulphur, to which so many consumers object, but not only does steaming leave them in their natural pure color, but they become beautifully transpareut. The fruits must be tranferred quickly from the steam apparatus to the evaporotor. It is further claimed that cabbage, peas and beans, steamed and evaporated in this way, retain all their natural flavor, which is a point to be considered by our cannery men.

How to Use Cracked Prunes.—As nothing is wasted in those countries of thrift and economy, they have found a way to conserve for use prunes which were bursted by rains, as occasionally happens in Oregon; all prunes too small for drying, as well as apples, pears, cherries, peaches, apricots, etc., not salable in their fresh state. This will, no doubt, be of interest and value to our fruit growers, heuce permit me to quote a condensed description as given by Professor Rudolph Goethe:

The fruits, after being washed, are placed in a copper-lined kettle, and boiled soft (pears and apples being first quartered, skins left on), then passed through a sieve, which leaves the pits, seeds, cores and skins of whatsoever kind of fruit is being prepared. The jam thus produced is again put into the kettle and boiled down, sugar being then added to all tart fruits. Great care must be taken to prevent scorching by constant stirring with a wooden spoon or paddle, using the confectioner's mode of stirring in the shape of the figure "8." When of the proper consistency (which is ascertained by placing a spoonful on a plate, and if no juices separate, it is right), it is poured—if done in large quantities—on wire trays on which waxed paper has been placed to hold the jam, and put into an evaporator and dried under a low heat. If for family use, the jam is put on soup plates and dried in an oven, turning over occassionally, also under a moderate heat. When nearly finished, so they can be handled, these cakes are taken out and placed on clean boards, and exposed to the air, which will make them firm and hard.

They are then cut into strips to suit and packed away in boxes, lined with waxed paper; either for market or home consumption. These cakes will keep for many years, without deteriorating, and are particularly valuable for military posts, ship and steam use, camping parties, farmers and in climates where ordinary jams or jellies will not keep, and are especially appreciated in years when fruits are scarce and high. To prepare them for table use, take a given quantity of the cake, add sufficient hot water and allow to dissolve, for one hour, then put on the stove and let it come to a boil; add spices to suit the taste, and you have a delicious, refreshing dessert, enjoyed by old and young.

AGRICULTURAL ENGINEER.

California Conditions and Good Roads.

Dr. Marsden Manson, chairman of the State Bureau of Highway Commissioners has written the following concise and interesting bulletin upon California conditions as effecting a system of improved highways:

The Road Problem in California.—The profound and far-reaching influence a road system must always have upon the industrial condition and development of the State, warrants the broadest study of its physical features. The influence of a road system can never be neutral if systematically laid out upon the best lines; the gradual working toward the system will be productive of vast good, and each portion constructed adds to our commonwealth. But if, on the other hand, it be badly located or constructed, and operated in a systemless way, waste and loss must continue to cripple industrial development.

The area over which the Bureau of Highways is called upon to operate is one of great extent and interest. Its duties are primarily to devise a system of roads and road laws covering each county, the main lines of which system, when joined, will form a great series of roads traversing the State. The bureau, therefore, has been called upon to make a comprehensive study of the physical features of the State, and to consider their bearing upon the great problems with which the bureau is charged.

Area.—California covers an area of 153,000 square miles, which confronts the Pacific ocean along a coast line of more than a thousand miles in length, and extending through nine and a half degrees of latitude. This area, if laid out upon the Atlantic seaboard, would cover the States from New York to Savannah, or nearly half the area of the original thirteen colonies. If laid out upon the European and African coast, in corresponding latitudes it would reach from Valladolid, in Spain, to Morocco, the capital of the country of the same name, in Africa.

Configuration.—The area under consideration is principally mountain and rolling land of great diversity of features. Two great ranges of mountains traverse it from northwest to southwest— the Sierra Nevada in the eastern, and the Coast Range in the western part of the State. Besides the numerous fertile valleys contained between their spurs and lateral ranges, their foothills inclose the great central valley of California. This valley is about the area of the valley of the Po; its average dimensions are 400 miles long by 40 miles wide. Tehachapi pass, at the extreme southern end, and Acme summit, at the base of Mount Shasta, are importaut entrances into the great valley. The Sacramento and San Joaquin rivers and their tributaries water and drain the valley; their combined watersheds embrace an area of 52,000 square miles, situated principally upon the western slope of the Sierra Nevada and the eastern slope of the Coast Range. The edges of this watershed are the crests of the two ranges of mountains, except an area extending into Oregon along Pitt river, one of the main tributaries of the Sacramento. The eastern crest rises from 6,800 to 15,000 feet, and the western crest rises from a single tide level gap at Carquinez straits to elevations of 900 to 9,000 feet. The gaps in these mountain ranges, and the ridge and valley lines subdividing and lying within them, constitute controlling features in the development of a road system.

Climate.—In variety of climate California presents a wider range than do both the comparative areas above shown. Beside the climatic variations due to difference of latitude or distance from the sea, California presents a wide range of temperature due to differences in elevation. These differences extend from the Arctic temperatures of 15,000 feet above to the semi-torrid climate of areas 400 feet below sea level. Between these extremes every grade of temperature, moisture and exposure exists. In the hotter portions fruits and vegetables grow without intermission during the entire year; whilst upon the colder heights frosts form every night in midsummer, and only the hardiest cereal plant life exists. Severe frosts and freezing are thus limited to the most elevated parts of the State, and hence no great precautions are necessary to resist their injurious action upon roads. Beside, in the greater portion of the higher mountains snow falls before freezing weather occurs, and remains until the warm weather of spring, thus protecting roadbeds in these regions from frost action.

Rainfall.—The northern part of the State, latitude 42 degrees, is just within the extreme southern summer limit of the north temperate rain belt. The limit, during winter, shifts a little south of the southern end of the State. Therefore, the State has the full benefit of the winter rains, and enjoys a comparatively rainless summer.

The mean annual precipitation in the northwestern part of the State and upon the exposed flanks of the Sierra and Coast Range is 80 to 100 inches, whilst in the southern portion of the State there are comparatively rainless areas, receiving from two to four inches annually. Between these two, again, there lies every degree of annual moisture. This precipitation is, however, rarely so heavy that a properly located, well-surfaced and well-drained roadbed will be badly washed.

Vegetation.—The distributation and variety of vegetation over an area of such extreme range of climatic and moisture conditions are marvelous and comprehensive. The cone-bearing trees excel in size and variety any other known area. The drier portions present a wealth of palm, cactus and yucca that bewilders the botanist. Again, the forest growth is sometimes so dense that at least one million feet of lumber can be cut from a single acre, and other areas are absolutely devoid of vegetation. Between extremes of such vast scope are found vegetation of every class. In the densely timbered areas clearing and grubbing are expensive, and the shading of the roadway causes it to remain wet longer than is desirable, but yields a grateful shade in the noonday of summer.

Geological Occurrence of Road Materials.—The geological formations throughout the entire area of mountain, foothill and valley lands furnish road-building materials, many of which are of unsurpassed excellence. The mountain and foothill regions yield an abundance of the harder volcanic, metamorphic and bituminous rocks, together with bitumens of the best quality. The valley soils are often underlaid by

strata of excellent road-surfacing materials. Where clay and adobe predominate as surface soils, gravel and sand are generally available for improving the roads necessarily graded up of inferior material; and where sand predominates clay can be found within reasonable distances. Thus, by the proper development and utilization of the available materials, no section of the State need endure the poverty and loss entailed by the costly maintenance of bad roads.

An Irrigation Report.

To THE EDITOR:—The progress report of the Division of Hydrography for the calendar year 1896 has just been issued as Bulletin No. 140 of the United States Geological Survey. This bulletin, of 356 octavo pages, contains a description of the methods of measuring the streams and the results obtained up to the end of the year. The data, given to a large extent in tabular form, but without illustrations, relate to the fluctuations of water supply, especially that for irrigation. The report also contains a paper by J. B. Lippincott upon the San Joaquin basin, dealing incidentally with irrigation in California, and a paper by Philip E. Harroun upon irrigation in the Rio Grande valley. The price of this report is 25 cents, no copies being available for free distribution. Money should be transmitted by postal or express order made payable to the Director of the United States Geological Survey, to whom all correspondence relating to publications should be addressed.

F. H. NEWELL, Hydrographer in Charge.

Washington, D. C.

THE APIARY.

Central California Beekeepers' Association.

To THE EDITOR:—The Central California Beekeepers' Association met in Selma, Wednesday, Sept. 2d, with a fair attendance. The meeting was called to order by President Hart. The forenoon session was spent in paying dues and reception of members, etc. After the lunch hour, the fraternity again came together with marked interest to consider matters relating to the bee business.

A Traveling Stencil.—President Hart inquired in regard to the whereabouts of the plate owned by the Association, used in handling honey cases, after which it was learned that the secretary had ordered it sent from where Mr. G. X. Wendling has had it in use, furnishing cases and branding the same, to Mr. O. W. Stern, the new treasurer. The latter stated that he had never received it, but that he had seen it at the mill at Clovis. It being finally decided that the Association unite in one body in buying boxes, cases, etc., as it was thought that in buying in quantity there would be advantages in prices, Mr. J. F. Flory of Lemoore moved that the brand be put in the hands of the Executive Board, and that a box of sufficient size to hold the brand with all the private inserts, and the same be furnished to the parties that would serve the Association upon the most satisfactory terms. Mr. Sterns seconded the motion, and, after a few remarks, it carried.

Tare on Honey.—The next subject advanced for discussion was that of tare on extracted honey cases. Filson of Lemoore had weighed some empty cases, with cans, of which he found the average weight to be 15 pounds, the same for which 18 pounds is demanded by the purchaser, which means a loss of 10 cents per case, or $20 per car, making $200 for the 10 cars of honey produced in Kings county alone this season. Mr. Filson advocated the use of cases that will weigh fully 18 pounds, and further stated that a Sanger firm has agreed to furnish the same at a price not to exceed 10 cents each.

Honey Cases.—The use of center boards was next considered, and, after much deliberation, it was unanimously agreed that it was a useless extravagance, as it was unnecessary and only added expense to the purchaser of the cases, as well as the shipper of the honey, viz., in freight.

Mr. S. Knight of Selma next took the floor and advanced an argument favoring the marking of honey, with their names being placed on each case, to prevent bad packing.

At this point Mr. Hart interrupted the speaker by saying that he had noticed some had their honey cases marked: "Will Not Explode."

Mr. Knight continued with a motion that all who use the Association brand must have their names on each package. The motion was seconded by Mr. R. P. Shirk, of Hanford, and carried by a vote of the house.

Foul Brood.—The subject of foul brood, the much dreaded disease among the bees, was next brought to the front with considerable earnestness. From the statements of Mr. Sterns, R. L. Epperson and others that it has already appeared in Fresno county, on motion of O. W. Sterns it was decided that the Association ask the Board of Supervisors of Fresno county to furnish a man who would be competent to detect a case of foul brood, for the purpose of investigating any doubtful case and to see that the disease spread no further. O. W. Sterns was chosen and recommended to the Board as a man whose experience has qualified him for a foul brood inspector.

Co-operative Buying.—It was voted that the secretary, associated with the other members of the Executive Board, correspond or visit in person the different box factories of this section, for the purpose of obtaining the most satisfactory prices for the honey cases needed by the Association, which will be several thousand each year. It was ordered that the Executive Board prepare a programme to be carried out at the next regular meeting, by calling upon each party and notifying him of the part intended for him to carry out.

The meeting adjourned to meet at Hanford on Wednesday, Dec. 2nd. F. E. BROWN, Sec.

THE POULTRY YARD.

The Depredating Hen.

Of all the things in nature that afflict the sons of men,
There is nothing that I know of beats the depredating hen;
If you see a wild-eyed woman firing brickbats from the shed,
You can bet a hen has busted up her little flower-bed.
She plunders and she scratches, she cackles and she batches,
And forty thousand cowboys couldn't keep her in a pen.
She was sent on earth to fret us, to excoriate the lettuce;
She's a thoro'-going nuisance is the depredating hen.

I threw a brick and missed her as she hustled out my beans,
But Julius Cæsar's statue was smashed to smithereens;
I saw her digging rifle pits where I'd put my pansies in,
I fired a good-sized rock and hit my hired man on the shin.
She busts all bounds and shackles, she giggles and she cackles,
She makes me say some earnest things I haven't time to pen;
I never used bad language, but now I'm filled with anguage.
Alas! I've broke the record thro' that depredating hen.

But now thro'out my cabinet there floats a pleasant smell,
And the reason for that perfume isn't hard to tell;
For when I rose this morning, saw my cabbage-bed a wreck,
I caught that depredating hen and fiercely wrung her neck;
I hear her fizz and crackle, no more she'll scratch and cackle,
Or make my summer garden look like some hyena's den.
She far too long has bossed me, she far too much has cost me—
I'll eat at luncheon time to-day a hundred-dollar hen.

—The Khan.

The State Fair Premiums.

To THE EDITOR:—The following is the list of premiums awarded to the poultry at the California State Fair for 1896. There were nearly 900 fowls on exhibition, besides pigeons, rabbits, hare, etc.

Black Langshans.—Best cock, $2; 2nd, $1; best hen, $2; 2nd, $1; best cockerel, $2; 2nd, $1; best pullet, $2; 2nd, $1; best breeding pen, $6; 2nd, $4; all to F. P. Lowell, Sacramento.

White Langshans.—Best cock, $2; best hen, $2; 2nd, $1; best cockerel, $2; 2nd, $1; best pullet, $2; 2nd, $1; best breeding pen, $6; 2nd, $4; all to F. P. Lowell, Sacramento.

Light Brahmas.—Best cock, $2; 2nd, $1; A. J. Smittgen, Brighton. Best hen, $2; 2nd, $1, Mrs. H. F. Snow, San Jose. Best cockerel, $2, Mrs. H. F. Snow, San Jose; 2nd, $1, Mrs. F. E. Williams, San Jose Best pullet, $2; 2nd, $1, Mrs. F. E. Williams, San Jose. Best breeding pen, $6, A. J. Smittgen, Brighton; 2nd, $4, Mrs. H. F. Snow, San Jose.

Dark Brahmas.—Best cock, $2; best hen, $2; 2nd, $1; A. J. Smittgen, Brighton. Best cockerel, $2; best pullet, $2; best breeding pen, $6; Mrs. H. F. Snow, San Jose.

Buff Cochins.—Best cock, $2; best hen, $2; 2nd, $1; L. E. Brainard, San Jose. Best cockerel, $2; 2nd, $1; Mrs. F. E. Williams, San Jose. Best pullet, $2; best breeding pen, $6; A. J. Smittgen, Brighton. 2nd pullet, $1; 2nd breeding pen, $4; Mrs. F. E. Williams, San Jose.

Barred Plymouth Rocks.—Best cock, $2; best hen, $2; 2nd breeding pen, $4; F. P. Lowell, Sacramento. 2nd cock, $1; 2nd hen, $1; best cockerel, $2; best pullet, $2; best breeding pen, $6; Osgood & Son, Oakland. 2nd cockerel, $1; 2nd pullet, $1; C. J. Cox.

Buff Plymouth Rocks.—L. E. Brainard, San Jose, captured all prizes.

Brown Leghorns.—Best cock, $2; best hen, $2; best cockerel, $2; best pullet, $2; 2nd, $1; Reliance Poultry Farm, Stockton. 2nd cock, $1, F. P. Lowell, Sacramento. 2nd hen, $1; 2nd cockerel, $1; best breeding pen, $6; French Bros., Stockton. 2nd breeding pen, $4, Coffee Bros., Sacramento.

White Leghorns.—Best cock, $2, C. A. Robbins, Stockton; 2nd, $1, F. P. Lowell, Sacramento. Best hen, $2, 2nd, $1, C. A. Robbins, Stockton. Best cockerel, $2, 2nd, A. J. Smittgen, Brighton. Best pullet, $2, C. A. Robbins, Stockton; 2nd, $1, A. J. Smittgen, Brighton. Best breeding pen, $6, C. A. Robbins, Stockton.

Buff Leghorns.—Best cock, $2, F. P. Lowell, Sacramento; 2nd, $1, R. G. Head, Napa. Best hen, $2, L. E. Brainard, San Jose; 2nd, $1, F. P. Lowell, Sacramento. Best cockerel, $2, 2d, $1; best pullet, $2, 2nd, $1; best breeding pen, $6, 2nd, $4, L. E. Brainard, San Jose.

Black Leghorns.—Best cock, $2, 2nd, $1; best hen, $2, 2nd, $1; best cockerel, $2, 2nd, $1, French Bros., Stockton. Best pullet, $2, 2nd, $1, Wm. Caswell, Sacramento. Best breeding pen, $6, French Bros., Stockton; 2nd, $4, Wm. Caswell, Sacramento.

White Minorcas.—Best cock, $2, 2nd, $1, French Bros., Stockton. Best hen, $2, Reliance Poultry Farm, Stockton: 2nd, $1, French Bros., Stockton. Best cockerel, $2, 2nd, $1, Reliance Poultry Farm, Stockton. Best pullet, $2, 2nd, $1, French Bros., Stockton. Best breeding pen, $6, Reliance Poultry Farm, Stockton; 2nd, $4, French Bros., Stockton.

Black Minorcas.—Best cock, $2, F. P. Lowell, Sacramento; 2nd, $1; best hen, $2, Reliance Poultry Farm; 2nd, $1, C. A. Robbins, Stockton. Best cockerel, $2, Reliance Poultry Farm; 2nd, $1, C. A. Robbins, Stockton. Best pullet, $2, Reliance Poultry Farm; 2nd, $1, French Bros., Stockton. Best breeding pen, $6, Reliance Poultry Farm, Stockton; 2nd, $4, F. P. Lowell, Sacramento.

Blue Andalusians.—French Bros., of Stockton, made a clean sweep.

White-Faced Black Spanish.—F. P. Lowell, of Sacramento, made a clean sweep in this class.

Silver Wyandottes.—Best cock, $2, Coffee Bros.; 2nd, $1, J. Callendine, Sacramento. Best hen, $2, J. Callendine; 2nd, $1, Coffee Bros., Sacramento. Best cockerel, $2, 2nd, $1, F. P. Lowell. Best pullet, $2, 2nd, $1, F. P. Lowell, Sacramento.

Golden Wyandottes.—F. P. Lowell received all the premiums.

White-Crested Polish.—Best cock, $2; best hen, $2, 2nd, $1, Mrs. H. F. Snow, San Jose. Best breeding pen, $6, R. G. Head, Napa.

Bearded Silver Polish.—Best cock, $2; best hen, $2, Mrs. H. F. Snow, San Jose.

Golden Polish.—Best cock, $2; best hen, $2, Mrs. F. E. Williams, San Jose.

Silver Spangled Hamburgs.—Reliance Farm, of Stockton, made a clean sweep.

Black-B. Red Game Bantams.—Best cock, $2, Mrs. H. F. Snow, San Jose; 2nd, $1, French Bros., Stockton. Best hen, $2, Mrs. H. F. Snow, San Jose. Best breeding pen, $6, French Bros., Stockton; 2nd, $4, Mrs. H. F. Snow, San Jose.

Cornish Indian Games.—Best cock, $2, French Bros., Stockton; 2nd, $1, Mrs. H. F. Snow, San Jose. Best hen, $2; best breeding pen, $6, French Bros., Stockton.

Black B Red Games.—Reliance Poultry Farm, of Stockton, made a clean sweep.

Mottled Houdans.—Best cock, $2; best pullet, $2, 2nd, $1; best breeding pen, $6, J. Callendine, Sacramento.

Bronze Turkeys.—Best pair, $10, French Bros., Stockton; 2nd, $5, R. G. Head, Napa.

Narragansett Turkeys.—Best pair, $10, French Bros., Stockton,

Toulouse Geese.—Best pair, $5, French Bros., Stockton; 2nd, $3, J. Moddison, Washington, Cal.

Pekin Ducks.—Best pair, $5, C. A. Robbins, Stockton; 2nd, $3, F. P. Lowell, Sacramento.

Rouen Ducks.—Best pair, $5, R. G. Head, Napa.

Sweepstakes.—For the largest and best exhibit of fowls by one exhibitor, 1st premium, $15 and Society's silver medal, F. P. Lowell, Sacramento; 2nd premium, $10, Reliance Poultry Farm, Stockton.

F. P. LOWELL, Supt. Poultry Department Cal. State Fair.

Sacramento, September 23, 1896.

Poultry Food in the San Joaquin.

W. C. McFarlane of Hanford, Kings county, seeks the advice of the *Poultry Keeper* on the food supplies which he finds in his part of the San Joaquin valley. He writes:

What is the effect of feeding old and wormy cracked pink beans, raw, to laying hens and pullets? I mix one-third cracked beans to two-thirds wheat for the night feed, and sometimes use barley in place of beans. How about cracking and cooking the beans and thickening with bran for morning feed? What is the value of rolled barley for feed?

How about the moulting hen, and would you give them all they could eat? Are not oil cake, meat cracklings, tallow, etc., mixed in their food during moulting a good thing?

I can get an abundance of jack rabbits here. Would it be better to skin them, throw them in my 65-gallon kettle and boil them to shreds, or grind them up in my green bone mill and feed them raw? When I boil them I thicken the soup with bran.

During the summer I feed but very little hot feed. I mix it with cold water instead. I have about 600 hens and pullets, and next season I shall increase to 900 laying hens. It costs me just 36 cents per year to feed each hen. They are on green alfalfa the year round. Eggs are selling here at 14 cents, and it takes 1½ cents to ship by freight and pay commission.

To the above the *Poultry Keeper* replies that if Mr. McFarlane can get beans at half a cent per pound, even if they are slightly damaged, he will have a cheap and valuable nitrogenous food. They may be fed to the hens coarsely ground or cooked and thickened with bran. Rolled barley is about on a par with rolled oats, excellent for chicks when they are young, but too expensive for fowls, though the rolled barley is superior to that which has not been separated from the hulls. As to beans, we would recommend them as the best of all foods for poultry if they were not usually too expensive. Yet it would pay to use a mess of them once a week, even when high in price.

Any kind of oily food promotes moulting, but we consider linseed oil meal with the grain the best substance to use, because it contains a large proportion of mineral matter. But we do not advise the use of tallow or foods that are fattening. Moulting hens require foods for muscle, bone and feathers, and should receive a little sulphur in the food on dry days.

Now, as to jack rabbits, we can only advise to feed them in any style—cooked, raw, ground, chopped, or in any manner that the hens prefer. Lean ones are better than the fat ones, and they can be put to good use in providing the hens with eggs. If the Australians would go into the poultry business and make a specialty of eggs, rabbits would soon be exterminated.

Shelter for Sitting Hens.

Put the sitting hens in an open shed or any other sheltered location. Use soap boxes for nests, open at one end, so that the hens must walk in on the eggs. Make a yard of lath, 4 feet long, 2 feet high and 2 feet wide, inclose the box, the end of which should be open so as to permit the hen to come off or on at will. Provide food, water and a dust bath for each hen, with a cigar box in which oyster shells, ground bone and ground charcoal, mixed, are placed. The dust bath is important. Simply scoop out a place on the ground floor and fill it with fine coal ashes, sifted. With this arrangement the hens do not disturb each other, and but little care and attention are required. The hens can dust and exercise,

and they cannot leave their nests. When the chicks are hatched these lath runs may be placed outside, so as to give the chicks a chance to forage and grow.

A New Comer Who Has Opinions.

What a recent acquision thinks of California poultry and poultry people is given in a letter of Gus Wollenschlager from San Francisco to an Eastern poultry journal, as follows:

I am looking for a suitable location, and should find one I shall soon start again, if also the market offers poor inducements for the chicken business. People here do not know a good chick from a poor one and have the queerest notions about chicks I ever heard of in my life. Many have the chicken fever start in on an elaborate scale, and others with lots of scrubs and no accommodations, and think they know all about it; and then, when they have paid dearly for their experience, and just commence to know a little, they give up in disgust. Our market prices certainly are discouraging, having to compete with Eastern poultry, which comes in by the carload: but until the people here are educated in regard to good table fowls and broilers one can always make an egg farm pay, providing he knows his business and gets the right location. You would laugh if you would see the dirty little eggs of all colors in the market here.

Considering our deficiencies, it is fortunate that Mr. Wollenschlager has come among us. He has the chance of being a poultry missionary of a high order, but he declines, and is going to fall to and fatten upon the ignorance which he proclaims. And yet a man of such profound convictions on poultry excellence can hardly escape exerting a most elevating influence It is bound to leak out of him some way. Welcome, thrice welcome, Wollenschlager!

Let Them Sit.

There is some discord among experts as to whether a broody hen should be immediately awakened from her fond delusion that a cobblestone is not an egg, or whether she should be allowed to repose upon the nest until she gets a good rest. John D. Mercer of Los Angeles tells the *Poultry Keeper* that he believes in the latter practice. He says.

My Partridge Cochin hens sit about six months out of twelve, and the poorest layers lay about 112 eggs a year, and some 150 eggs. I found years ago that if a hen was not allowed a rest she laid fewer eggs and was more subject to sickness. If a hen is in good condition it is a good plan to sit her for several weeks. I had one Partridge hen to lay 44 eggs in less than fifty days after she had been resting for three weeks, and she would probably have laid from 5 to 10 only if I had broken her rest. I take a large box, spray with liquid lice destroyer, put some straw over it, set all the hens that get broody, and let them sit for one two or three weeks on nest eggs, one for each hen. It is but little trouble, and when they come off they are ready for business.

Mr. Mercer's conclusion apparently is that a hen should not be broken up immediately when she desires to sit, but should be allowed to stay on the nest at least ten days or two weeks (or hatch a brood), and she will lay more eggs in a year than if broken up as soon as she becomes broody.

Tuberculosis in Birds.

Poultry people are evidently to have their share in the tuberculosis sensation. At a recent meeting of the U. S. Veterinary Medical Association at Buffalo, N. Y., there was a paper by Dr. D. E. Salmon of the U. S. Bureau of Animal Industry which treated principally on Tuberculosis in Birds, and was pronounced one of the most complete and interesting ever prepared on the subject. He quoted many foreign authorities and said the disease was transmissible from bird to man and vice versa. The identity of avian and human tuberculosis is well demonstrated by Koch and other eminent investigators. Parrots are very prone to contract the disease, and it early affects Polly's speech. Parrots are easily affected with human tuberculosis, and a parrot so affected is a constant menace to the people in the same house. He said the proper treatment is to annihilate all diseased birds, chickens, etc., the disinfection of yards, feeding and drinking places, etc., and advised that human consumptives be kept away from poultry yards. Dr. Knowles said the poultry business in America is greater in value than the beef and pork trade. Dr. R. P. Lyman of Hartford, Conn., thought the paper should be promptly circulated among veterinarians and poulterers.

What to Do With Fat Hens.

When a hen becomes very fat she not only is a poor layer, but will become broody, droopy at times, have leg weakness, and be unfit for anything but the pot. Such hens should be fed only once a day, at night, the meal to consist of a pound of lean meat to twenty hens, with a handful of grain scattered for them to hunt up. They will then be hungry during the day, will search and work for food, while the inducement of a few grains thrown out at night will cause them to keep at work until late. Meat contains little fat-producing elements, if lean, and will greatly promote laying as soon as the surplus fat is removed, which can only be done by compelling the hens to exercise. If the hens are kept on this exercise diet for a week or ten days they will be in better health afterwards; and if they begin to lay, and lay well, the one meal per day may be continued.

THE DAIRY.

Major Alvord's Views on Tuberculosis.

Major Henry E. Alvord, Chief of the Dairy Division of the Bureau of Animal Industry of the Department of Agriculture, held an informal conference with the health authorities last week on the subject of tuberculous cattle.

Major Alvord announced himself to be acting in an individual capacity, and not as the representative of his department, in the expression of views concerning the war recently waged upon tuberculous cattle by the Board of Health. He said that he did not consider that the presence of tuberculosis, as revealed by the tuberculin test, was a justification of the immediate slaughter of the animals. He believed that the proper plan would be the complete separation and isolation from the healthy animals of those showing traces of the disease.

"A distinction must be made between diseased cows and sick cows," said he. "I recommend the immediate slaughter of the sick cows; but, just as a person diseased by consumption may round out a useful career, so may a diseased cow. A strict quarantine should be established of the diseased members of a herd; their milk should not be sold, nor any of its products marketed, but for breeding purposes these animals are perfectly good. It is now an accepted fact among veterinarians that the disease is not transmitted to the progeny.

"It is not practical to build separate barns for these animals, but, by placing partitions in the barns, the diseased and healthy animals may be kept separate. When the disease becomes so bad that the animal is manifestly sick, it should be killed."

In support of his theory Major Alvord submitted extracts from a treatise by Prof. Bang of Copenhagen, in which the reaction of tuberculin was dealt with and the reliability of the test fully considered. From the treatise the following extracts were read:

From the uncertainty in the action of the tuberculin, established in various ways, we must necessarily conclude that the tuberculin test is not to be regarded as a certain legal proof of the existence of tuberculosis. When coupled with a physical diagnosis, it may be considered sufficient to prove tuberculosis, but the tuberculin reaction alone gives, in my opinion, no sufficient proof of the presence of tuberculosis.

The tuberculin test can produce a worse condition in the tuberculous animals than before existed.

It appears to me a very great risk to subject herds of breeding cattle, milch cows and other animals to the tuberculin test. By this procedure the tuberculosis, which in many animals is in a dormant state, is aroused and made immediately dangerous.

A stronger reaction is most often noticed in slightest cases, while cattle which have been affected a long time frequently react only slightly or none at all. The large majority of reacting animals are only slightly tuberculous. They can remain for many years fully capable of accomplishing their work, and with many of them the tuberculosis remains wholly localized for the entire life, or even a cure may take place. For milk-yielding countries I prefer for the present to recommend a less radical method. First, to inoculate the herd with tuberculin. Second, to separate the reacting animals, as far as possible, from the non-reacting. Third, to kill the evidently sick animals at once. Fourth, to rear the calves of the cows which react, but otherwise appear healthy, or, at least, only slightly attacked. Fifth, to remove the same immediately after birth from the infected stable, place them in the healthy division and protect them from further infection, especially from milk feeding. Sixth, to carefully disinfect the stable. Seventh, to inoculate with tuberculin the animals of the healthy division once or twice yearly.

Major Alvord said that he considered the sanitary inspection of dairies of far more importance than the destruction of tuberculous herds.

A Government Dairy Publication.

"Facts About Milk," by R. A. Pearson, B. S., Assistant Chief Dairy Division, Bureau of Animal Industry, U. S. Department of Agriculture (Farmers' Bulletin No. 42), treats of the composition, changes and care of milk, the means of detecting and preventing impurities and proper methods of handling milk for town and city supply. The illustrations consist of eight cuts—the different grades of milk, proportions of the component parts, a dairy thermometer, creamometer, lactometer, pasteurizing apparatus, glassware for Babcock fat test, milk jar for distributing milk to families.

Certain improvements in the prevailing methods of handling and the present principles of purchasing milk are suggested, among which is the grading and pricing of milk by the percentage of fat it contains, and the labeling of each can with the percentage of fat guaranteed to each grade. Readers of the RURAL should apply to the Congressmen of their respective districts for this publication. It is sent free.

A Butter Increaser.

We have often denounced the "Black Pepsin" and other compounds which are freely advertised for sale in thoughtless journals, and which claim to enable one to get far more butter from the milk than the best butter making practice can obtain. We have explained that this was due to coagulation of part of the curd, etc., and that the article produced was not butter. The Cornell University Experiment Station has just been investigating a similar misleading material which is being sold in New York State under the name of "Chase's Butter Increaser." It is very likely to reach this State in some form of advertisement, and we wish our readers to be forewarned of its character. The sample examined at Cornell was a liquid having the general appearance of vinegar and a slight odor of wintergreen. It guaranteed to double the yield of butter from cream if added in small proportions to the cream before churning.

How the Increaser Acts.—It was a 25 per cent solution of acetic acid, which is the acid of vinegar, and a small amount of salicylic acid. The action of acids on milk is to curdle the caseine. This is shown in the souring of milk itself when lactic acid is formed from the milk sugar, or by adding vinegar or other acids to milk. Hence it is plain what the effects of Chase's Butter Increaser would be. The acetic acid would curdle the casein, which would become mixed with the fat, and yield a product that would be neither good butter nor poor cheese.

Another Fraud.—A second article of an even more fraudulent nature has also been sold by agents. It goes under the name of "Gilt Edge Butter Compound." It guarantees to make two pounds of butter from one pound of butter and a quart of sweet milk. In general the directions were to warm the butter until soft, mix in the milk and add as much of the compound as could be placed on a one-cent piece and mix all together. The resulting butter (?) will weigh two pounds. This "Gilt Edge Butter Compound" is a mixture of about equal parts of alum and soda, with a little pink coloring matter. It was once sold in ounce packages for $1.

These substances would act in a similar way to the acid in the "Increaser," *i. e.*, by incorporating the casein and also a considerable amount of water with the cream. This incorporated casein furnishes a medium for the growth and multiplication of millions of organisms. It is to remove this casein and so get rid of these germs that butter is so carefully washed.

Why These Things Are Frauds.—While the food preservatives may have some valuable uses, as keeping milk samples for composite tests, there is absolutely no excuse for "Butter Increasers" in an honest community. They are fraudulent in that they pretend to teach the producer how he can get more butter from cream than there is in it. They promote dishonesty by throwing in the way of an unscrupulous producer a means of defrauding his customers; and, worse than all, the use of these "Increasers" is an attempt to put on the market a product which not only cheats the producer, but may possibly endanger the health of the consumer.

The Canned Fruit Situation.

As the course of trade in canned fruits is intimately connected with the course of fruit values generally, we take the following pertinent information from the September 17 circular of the Cutting Packing Co. of San Francisco:

Apricots.—Nothing of interest, except that the stiff advance in dried has confirmed the better feeling previously advised. Little doing, although there is some new inquiry for jobbing parcels for export. Extras are in short supply and there will be no carry-over of '96 pack of standards.

Cherries.—Standard Black are cleaned up, with only a light stock of extra Red and White and Standard White.

Peaches.—Frees are in much better supply than expected in August, but of the poorest quality, and the pack will be much shorter than anticipated. Clings are at a premium, packers paying from $30 to $40 per ton, against $25 to $30 for contracts on which early sales were based. Quality equally as poor as Frees. Contracts for extras will not, as a whole, be filled over one-half and not all for standards in full.

Pears.—A large packing of standards and seconds finished two weeks ago. Output of extras very slim. All will go off very readily at fair prices, the demand being excellent from all quarters.

Plums.—Short pack; better inquiry, but, as there was no carry-over, stocks will be cleaned up early.

Small Fruits.—No carry-over and a very light pack. Demand good.

A general improvement in trade is noticeable from all directions, and, while there is no spurt, we look for a gradual increase and steady demand all through the fall. Finances are not troubling packers as much as a month ago, but nevertheless they are not falling over each other in their efforts to accumulate a phenomenally large pack, and it is within the bounds of probability that an output based on the legitimate requirements of the trade will be the result of the hardest year in the memory of most of the packers on the coast.

Proposed Polar Exploration.

The expedition to Jones sound, planned for 1897, is intended to initiate a system of continuous Arctic exploration. Its object is to be the scientific research above indicated, and to this all else will be subordinated. Special attention will be paid to geology. Disasters having been plainly due to lack of a secure and always accessible base, the first object will be the establishment of a base at the mouth of Jones sound, which Julius von Payer calls "the one spot most suitable for such a base." Being in assured annual communication through the Scotch and Newfoundland whalers, a well housed and well provisioned party, with some Eskimo families, will be as safe there as anywhere on earth, and will have before it a field unequaled in richness and extent. To the north, the west coast of Ellesmere Land and Grinnell Land are to be explored; to the northwest, the triangle between those coasts and the Parry islands is to be rescued from the unknown; to the west, the interior of North Devon is an interesting problem; to the southwest, Prince Regent inlet may present an avenue to the magnetic pole; to the south, Baffin Land—with its Eskimo settlements, its herds of reindeer, its wealth in fishes and birds, its fossils and minerals—offers a tempting field, larger than the British isles. Even Greenland may not be beyond the sphere of that strategic point.

Such a system, once initiated, will cost very little. Lecturing tours and the sale of collections will defray a large part of the cost. Considering the enormous sums spent on Arctic exploration by governments and by individuals, it seems probable that when the system is once in running order it will not lack patrons. The cost of the initial expedition is estimated at $5000. Much smaller sums will probably suffice in subsequent years.

The Utility of Inventions.

It is no doubt true that when a new invention is introduced which revolutionizes some particular art or branch of business it at first decreases the number of persons employed in that particular line; but that is only temporary, for in a short time the result is a cheapening of the product, a greatly increased demand for it, because of this cheapening, and then necessarily an increased demand for laborers in that line, and almost universally at increased wages. The statistics show this to be true beyond the possibility of a question. The records of the Labor Bureau of the United States show that, from 1860 to 1880, the most prolific period of inventions, and the most intensified in all directions of their introduction, the population increased 59.51 per cent, while in the same period the number of persons employed in all occupations—manufacturing, agriculture, domestic service and everything—increased 109.87 per cent; and in the decade from 1870 to 1880 the population increased 30.08 per cent, while the number of persons employed increased 30 per cent. As shown by the investigation of a committee of the United States Senate, wages have increased 61 per cent in the United States since 1860. And, as we all know, during that same period the cost to the people of nearly all manufactured articles has been decreased in as great, if not a greater, ratio.—Canadian Journal of Fabrics.

STATE OF OHIO, CITY OF TOLEDO, } ss.
LUCAS COUNTY,
FRANK J. CHENEY makes oath that he is the senior partner of the firm of F. J. CHENEY & Co., doing business in the City of Toledo, County and State aforesaid, and that said firm will pay the sum of ONE HUNDRED DOLLARS for each and every case of CATARRH that cannot be cured by the use of HALL'S CATARRH CURE.
FRANK J. CHENEY.
Sworn to before me and subscribed in my presence, this 6th day of December, A. D. 1896.
{SEAL} A. W. GLEASON, *Notary Public.*
Hall's Catarrh Cure is taken internally and acts directly on the blood and mucous surfaces of the system. Send for testimonials, free.
F. J. CHENEY & CO., Toledo, O.
Sold by Druggists, 75c.

ONE is justified in many cases in giving only a tentative belief to many of the big hailstone tales over which some travelers delight to spread themselves, says the *St. James' Budget*. A correspondent in Dholi, Behar, however, seeds the indubitable proof of photographs to quite convince us and our readers of the terrible nature of the hailstorm which occurred in his district recently. The storm passed over the greater part of the districts of Mozufferpore and Durbungah, but it appears to have concentrated itself with special fury over the indigo factory called Dholi. Here the storm was terrific, even for tropical regions, the hailstones weighing as much as five ounces. On an average they were as large, if not larger than cricket balls. It can be easily understood that the damage done was great. Not a whole tile was to be found in the roofs, trees were uprooted, birds were killed, and general destruction wrought all round. What is more astounding, the corrugated iron roofing over many of the factory buildings was riddled as if it had been shelled by a battery. We can quite imagine, as our correspondent informs us, that no storm like it has ever occurred in the district. Hailstones have, however, had the same terrific force in Africa, a sample of corrugated iron pierced in a like manner having been recently shown in London.

AT the late meeting of the American Association for the Advancement of Sciences at Buffalo, N. Y., over which Prof. Joseph Le Conte of the University of California presided, two papers on the geology of California were read by Prof. J. P. Smith of Leland Stanford University. He proved the close parallelism with the beds of Europe by the terraces of the Triassic and Jurassic eras. He described the physiography of the region, and discussed the origin and growth of the mountain ranges, illustrating his remarks by aid of the stereopticon. The main orographic movements were in the Cretaceous and Tertiary periods. He explained the Tertiary and Post-tertiary erosion and the uplifts of the Coast Range and the Sierra Nevada. He said that the great valley of California was never an arm of the sea, being full of river deposits. He traced out the ancient river systems, and spoke of recent geologic changes.

IN 1880 the birth rate per 1000 in the United States was 30.95. In 1890 it was 26.68, a decrease of 4.27 per 1000 of population in ten years. The decrease in the different States appears to have been nearly uniform. In Maine it was 3 per 1000; in New York, 1.65; in Pennsylvania, 3.30; in Indiana, 4.70; in Kansas, 5.67; in California, 3.72; in Louisiana, 5.50; in Texas, 9.47; in Kentucky, 4.90; in Georgia, 6.50; in Virginia, 7.76; and in other States in about the same proportion. The decrease was greatest in Massachusetts —11.67.

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A Happy Couple.

'Squire Moore and His Estimable Wife Interest a Reporter.

From Tribune, Greeley, Colorado.

Among the many good people residing in Greeley, Colorado, 'Squire Moore and his amiable wife are the best known and the most respected. This happy couple were born in West Riding, of York, England, in 1820. In 1848 they emigrated to this country and settled in Derby, Conn., where they resided for a number of years. While there, Mr. Moore, who was highly respected by his neighbors, was elected a member of the State Legislature in 1867.

A reporter called on them recently and was received cordially, and in response to his inquiries, Mrs. Moore said: "For four years I was miserable; hardly a week passed during that time but what I suffered from extreme lassitude. The least exertion fatigued me. At times when I was sewing or reading I would be troubled with tingling sensations, like the pricking of pins in hands, feet, arms and legs. Occasionally I would suffer from profuse perspiration, the water fairly running from my face and hands. Then for days it would seem impossible for me to enjoy a minute of warmth. I would sit in a rocking chair alongside a roaring fire in the stove wrapped up in blankets; yet while my face would be scorched, the rest of my body would be chilled.

"Finally, despite my opposition, my husband called in a physician, who attributed my ailment to rheumatism, and prescribed for that complaint. A day or two afterwards he changed his opinion, saying I was attacked with la grippe; also changed his medicine, but to no purpose. I was going from bad to worse. The tingling sensations were resumed. At times I would be incapable of doing anything with my hands, and my husband was fearful that I was suffering from partial paralysis.

"One evening, while reading the New York *Tribune*, he read to me a statement of a wonderful cure perfected by Dr. Williams' Pink Pills. He and I had at times read similar testimonials describing the great powers and virtue of these pills. But this night in particular I was impressed with what he read and told him it wouldn't do any harm to try a box. The next morning he purchased a box of the Pink Pills and I commenced taking them according to directions, three times a day. Within a week I felt better; and when I had finished that box, I asked my husband to get me another and he laughingly complied, saying 'conceit is as bad as consumption, but even if you think they are doing you some good there is a great relief experienced.' After that he purchased for me about a dozen more boxes, and for nearly two years I continued taking them. The result was I regained my strength, the tingling in arms and legs, bands and feet ceased and the frequent sweats which I had been subject to left me. In all truth, I am forced to state that the Pink Pills made a new woman of me. That is," she laughingly remarked, "as new as you can make a woman who is now in her seventy-sixth year." And in truth, Mrs. Moore's closing remarks are well founded, for she is as hale and healthy looking as any woman could be who has lived her great age.

(Signed) ANN MOORE.

Subscribed and sworn to before me, a Notary Public, this 23d day of May, 1896.

My commission expires May 14th, 1900.

MILTON A. LYONS, *Notary Public.*

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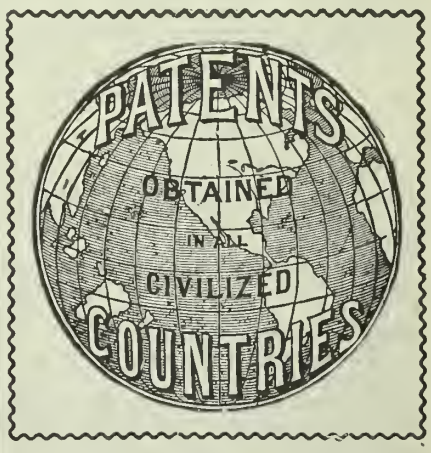

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THE HOME CIRCLE.

Little Feet.

Two little feet, so small that both may nestle
In one caressing hand—
Two tender feet upon the untried border
Of life's mysterious land.

Dimpled and soft, and pink as peach tree blossoms
In April's fragrant days—
How can they walk among the hriery tangles,
Edging the world's rough ways?

These rose-white feet along the doubtful future
Must bear a woman's load;
Alas! since woman has the heaviest burden
And walks the hardest road.

Love for a while will make the path before them
All dainty, smooth and fair:
Will cull away the hramhles, letting only
The roses blossom there.

But when the mother's watchful eyes are shrouded
Away from sight of men,
And these dear feet are left without her guiding,
Who shall direct them then?

How will they he allured, betrayed, deluded,
Poor little untaught feet?
Into what dreary mazes will they wander?
What dangers will they meet?

Will they go stumbling blindly in the darkness
Of sorrow's tearful shades?
Or find the upland slopes of peace and beauty,
Whose sunlight never fades?

Will they go toiling up ambition's summit,
The common world above?
Or in some nameless vale, securely sheltered,
Walk side by side with Love?

Some feet there he which walk life's track unwounded,
Which find hut pleasant ways;
Some hearts there be to which this world is only
A round of happy days.

But they are few. Far more there are who wander
Without a hope or friend;
Who find their journey full of pains and losses
And long to reach the end.

How shall it be with her, the tender stranger,
Fair-faced and gentle-eyed,
Before whose unstained feet the world's rude highway
Stretches so strange and wide?

Ah! who may read the future? For our darling
We crave all hlessings sweet,
And pray that He who feeds the crying ravens
Will guide the baby's feet.

—Elizabeth Akers Allen.

Nan's Career.

"This bread is stale as—" Nan paused for a fit comparison, "as stale as anything," she finished, grumblingly.

"And everybody knows that is very stale indeed," said Pet, laughing. Pet's soft, gentle little laugh was ready for every occasion.

"For my part I am tired of it all—tired to death."

Pet's pale face filled with wondering surprise; was this her brave, merry sister Nan?

"Tired of what, Nansie?" she asked, gently.

"Tired of stale bread and watered milk and scrappy pieces of meat—tired of slops!" said Nan, impatiently.

Pet arose and limped slowly around the table to where Nan sat, and put her arms around her sister's neck. Pet was lame.

"Poor darling! You are just tired out with the hot weather, Nan, dear. If you did not have to support—it—it breaks my heart, Nansie, that you must pay so many doctor bills—" The gentle voice broke and the pale little face was very grave.

"Pet!"

Nan's arms were around her immediately, and she was uttering all sorts of remorseful, caressing words.

"Don't say it again, Pet! Don't ever dare to say it again. Ugh! what a nasty wretch I was!—a beast, Pet, nothing short of a beast! Don't you do the housework, baby? A mere baby doing a person's housework!" Nan's voice implied that such a thing was preposterous and unheard of, and ought not to be tolerated by the laws of any country. "I said I was a beast, Pet, please remember, a—a—obnoxious beast," ended Nan, vehemently, with utter disregard to grammar.

After ending this outburst she glared so fiercely that Pet laughed outright, and presently Nan joined her, and they both felt better.

"It shall not always be like this. I have a career before me; I feel it." Nan threw her pretty head back proudly. Pet looked at her admiringly. She firmly believed her sister capable of anything.

"I shall earn lots of money by and by—heaps of it. I shall be famous" (such a little Nan to be famous—such a round, roly-poly, ridiculous little person!) "I shall never let you work then, Pet, and we will have no end of good times."

"And John Har—" began Pet, hesitatingly, but Nan held up her finger warningly.

"Don't say it, Pet!" she said, wrathfully. "Don't you mention a certain person's name. It's a name that is not to be mentioned between us. As if I didn't hear it often enough in the office! Ugh! But there, chick, I am going to be good now, and must be off. It's late. Good-by, little conscience."

The two girls were orphans, and the $10 a week that Nan earned as typo in the composing room of the *Traveler* was all the girls had to depend upon for support. Pet was lame and very delicate, and there were heavy doctor bills to pay, besides rent, provisions and clothing. It necessitated close economy. Usually Nan was the most cheery, courageous little person imaginable, but the hot weather was very wearing, and she saw Pet, who was not quite 14, growing paler every day. If she could only take her away for a few weeks! She felt that it must be arranged some way. She adored Pet; sometimes she called her her conscience. Willful, independent Nan sadly needed a conscience. Indeed, there was a certain person who sometimes half doubted if she possessed even the faintest shadow of one of her own. This person was a great trial to Nan—so she said.

His name was John Harris, and he was the efficient foreman in the office where Nan worked, earning three times as much money as Nan did; nevertheless, he was quite too common a person for a young lady with a career before her to give a second thought. Nan told herself so a great many times, and it certainly was provoking that this audacious young man had presumed to fall in love with her. At least, Nan declared it was, and had told John Harris so a number of times. He had no right to fall in love with her, Nan insisted; but that benighted person, John Harris, failed to see it in that light.

Poor John Harris! one feels inclined to say. But John needed nobody's pity. He was a big, broad-shouldered fellow, with handsome gray eyes, that held a quiet determination, as if their owner was quite able to take care of himself and his interests. Nan knew she ought to dispose of this young man some way—settle him once for all; but, strange as it was, she hated to do so. She did enjoy teasing the big, handsome fellow. Besides, John Harris wouldn't be disposed of.

Nan found his quiet gray eyes very disturbing this morning, as, looking over the top of her case, she found them regarding her with a mixture of reproach and displeasure, mingled with something warmer, which caused her to blush, much to her disgust. She frowned severely at them.

The owner of the eyes came around beside her and coolly helped himself to type from her case to finish the piece of work he had in hand.

"So you are a full-fledged literary woman, Nan," he said, quietly.

"Eh! what?" cried Nan, a great rush of color sweeping over her pretty face. "How—how did you know?" she faltered.

"Saw your story in the *Trumpet* last night," said John, shortly.

Nan actually gasped. Then it was accepted! Really printed! Fame, fortune, all sorts of rosy things seemed within Nan's gasp.

"It's the veriest trash, Nan," said John Harris, severely. "I'm surprised that you would stoop to write such stuff."

Nan's pretty mouth hardened and her brown eyes flashed fire.

"Thank you," she said, with cutting sarcasm.

"You are quite welcome," replied John Harris, politely.

How fortunate that Nan's case was off to itself and out of earshot of the others. One could talk to her so comfortably. It is just possible that sly John Harris had a hand in arranging it so. One would not like to accuse him of it, and yet, as I say, it is just barely possible.

In spite of its hardness, Nan's mouth quivered slightly. She turned to that unfeeling person beside her and said, with an odd little choke:

"It is exceedingly kind of you, John Harris, to say that. Oh, very kind indeed! Trash! How generous you are! It—was—exceedingly kind of you to say that you despised me!"

John opened his eyes in astonishment; and no wonder, since he had said nothing of the kind.

"Why, Nan—"

But Nan would not listen, but went on indignantly:

"Why should I not write trash? Why should I not do anything short of murder, and that sort of thing—to earn money when I need it so badly?"

John's face relented a little.

"But, Nan, I'm afraid they won't pay you."

"John Harris!" cried Nan, with withering scorn, "I wish you had some sense."

"So do I," said John, soberly. But the gray eyes were twinkling. My own private opinion is that John Harris was a very patient man.

The wrath suddenly died out of Nan's face. Her anger was always short lived.

"I want to take Pet away to the country," she said, chokingly. "It is breaking my heart to see her fading every day."

Every vestige of sternness vanished from the gray eyes regarding her.

"If you would only let me help you, Nan," said John, wistfully.

"But I won't," replied Nan, promptly.

"No," said John, ruefully, "you never will take any aid from me."

"Why should I?" asked Nan, calmly, "you have no right to offer me aid, nor I to receive it."

"Is that my fault, Nan?" asked John, reproachfully.

The demon of mischief entered Nan.

"Um!" she said, thoughtfully, digging absently with her rule into the front of her case and defacing it shamefully. She evidently did not intend to commit herself.

"I am awfully fond of you, Nan," said that ridiculous John Harris.

"So I have heard you remark," replied Nan, demurely. Then she laughed the naughtiest, sweetest, most tantalizing little laugh imaginable. Any man ought to have been charmed with it. But John Harris received it with the worst possible grace, long-suffering individual though he was.

He squared his handsome shoulders and regarded her with eyes dark with wrath; gradually they softened, however, and he said ruefully:

"I don't know whether you realize how tantalizing—how really cruel you are, Nan. Sometimes I think you do it on purpose."

Nan's face was a study, as she climbed down from her stool.

"I guess it's time to go home to dinner," she announced calmly, and she walked off with dignity, leaving John Harris standing alone and looking after her retreating figure in mingled amazement and wrath.

"Poor John!" sighed Nan on her way home. "One could almost like him if he were situated differently. If he were an editor or author, or even a reporter." That brought back her own good fortune, her own bright laurels. John Harris, indeed! "It might do well enough at present," said Nan musingly, ("Oh, very well," Nan's eyes said,) "but what would it be five or six years from the present? And it always gets to be five or six years from the present." This being an indisputable fact, Nan did not stop to argue it.

"Five or six years hence, and my sphere reduced to four or five humble rooms, ceaseless days of toil in a hot, stuffy kitchen, two or three cross, fretful babies, like as not,"—Nan colored rosily—"and no end of sewing and darning and stitching—no thank you, Mr. John Harris!"

What an exaggerating young person Nan was, for she knew quite well that said John Harris had a modest little home all paid for, and a good salary on which to support a wife.

"Nan! Nan Barnes! Is that you?"

Nan turned to find a young lady of near her own age running after her.

"Why, Alice! how do you do?"

"I'm—all—right!" panted Alice, "but I just want to shake you, Nancy Barnes. Here you have just tormented Cousin John until he has finally given over all hope and has gone and got engaged to that harum-scarum Jess Wilson! Oh, Nan, how could you?"

Nan's lips whitened suddenly.

"How do you know—who told you?" she asked faintly.

"Why, Jess' sister told me with her own lips. I was so disappointed, Nan—but I have to turn off here and must postpone my scolding until another time."

Poor Nan. Her face held a strangely blank look, and her brown eyes were dilated with misery.

"Oh!" she said chokingly, "what perfidy, what baseness!" What a wicked, cruel deceiver was John Harris. Had he not that very morning, aye less than a half hour before, told her that he was fond of her? Oh, perfidious John!

Nan almost flew along the streets, turning her steps toward the park, for she could not go home just now, and she positively could not go back to the office that afternoon and meet that unprincipled person who had broken her heart.

Reaching the park, she found a sheltered nook, and, dropping down upon a seat under the shelter of a friendly tree, she leaned her head on the back of the seat and burst into a storm of tears. But her anger was gone.

"John! dear John!" she sobbed. "Oh, if you had only known. If you had only been patient with me a little longer, John—ever so little longer! But it's too late now!"

Poor Nan sobbed on bitterly, uttering many foolish, passionate words of love and regret. She said John was the best man in the world and the truest. She said he was the most long-suffering and the patientest. She said, too, that she loved him with all her heart and soul; and that she would jump at the chance of marrying him, if he were forty foremen instead of one, which was rather a startling estimate. Yes, she would be glad—oh, how glad—to marry John if he were the devil himself! (Nan had reference to that much-abused scapegoat of the printing office.) "Oh, John! John! and I loved you so much!"

A hand was laid ever so gently on Nan's head, and, starting up hastily, she saw John Harris beside her, gazing down at her in astonishment. His eyes held a repressed fire and were regarding her in passionate tenderness.

"How—how did you come to be here?" faltered Nan.

"Followed you," said John, cheerfully; but his voice was a little unsteady. "Nan, was I right in thinking you said just now that you loved me?"

Nan arose and looked at him reproachfully; her face was white and miserable.

"I deserve it, John," she said, humbly. "I deserve this humiliation, and yet it is not like you to be so ungenerous. You are engaged now, John; you might be kinder in your happiness."

"Engaged?" cried John, in great astonishment.

"Yes, John, you are."

"Why, Nan, you surely know that I am not. I would like to be, dear. You know that, too."

"Why—I was—told that you were engaged to Jess Wilson," said Nan, faintly.

"Then it has been arranged without my consent or knowledge," replied John, laughing.

Then he bent over her and looked searchingly into her eyes.

"You have not answered my question yet, Nan," he said, softly. "Was I right in thinking I heard you say you loved me?"

"I almost think you were, John," faltered Nan.

John's face was radiant.

"Nan, I am the happiest man alive, to know that you really care about me, my humble self, and that you would marry me, even if I were the devil himself." John's eyes twinkled mischievously. It was really too bad of him.

"Oh, John, you heard!" said Nan, faintly.

"Yes, dear, I did hear, and thank God that I did. Now, Nan, I have something to tell you. I intended coming to your house to-night. My uncle died recently and has left me a small fortune, and you shall have a charming little home, Nan, and I shall be able to give you every comfort."

"John, dear John," said Nan, "as if I cared when I have you."

An hour later, in the tiny front room of Nan's home, with Pet sitting by, radiant-eyed and overjoyed, John said earnestly:

"Don't be angry, Nan, but really I was no end cut up about that story you wrote—it was unworthy of you, dear. I wish you wouldn't do it."

"I will never write another line, John," said Nan, meekly. But she did in after years, but her work was such as John could find no fault with. "It had your name attached to it, too," John continued, regretfully. "Such a dear little name—only," said John, soberly; "I don't quite know about the last name. I believe I would change that as soon as possible, Nan."

Nan laughed and blushed.

John laughed, too, but he was quite too shameless to blush.—Womankind.

Curious Facts.

The smallest humming bird weighs twenty grains.

Rain has never been known to fall in Egypt between the two lower falls of the Nile.

Every President of the United States has been either a lawyer or a soldier, or both.

A fossilized tooth of some extinct species of animal recenty found in Cedar county, Neb., weighs 14½ pounds.

At the annual sweet-pea flower show in Springfield, Mass., recently, no fewer than 116 varieties of this pretty blossom were shown.

A company has been formed to lay a pipe line from the Indiana oil fields to Chicago. The distance is 170 miles, and six-inch pipe is to be used.

The Hindoo maidens have a feast of lamps, very prettily alluded to by Moore in "Lallah Rookh." A lighted lamp is set adrift on the Ganges, and from its fate is foretold that of the owner.

The astronomers calculate that if the diameter of the sun should be daily diminished by two feet, it would be 3000 years before our best instruments could detect any difference in its size or brilliancy.

Contrary to the general belief, the Sahara is not a barren and worthless waste. Some time ago there were 9,000,000 sheep in the Algerian Sahara alone, besides 2,000,000 goats and 260,000 camels. On the oases there are 1,500,000 date palms.

In Wales there exists the "falling tower" of Cærphilly castle, which is 77 feet in height and inclines no less than 11 feet out of the perpendicular. In proportion, this is much greater than the tower of Pisa, which is 180 feet and leans 15 feet.

The case of a child "dying of old age" at the age of eight months is reported from St. Louis. The child began to develop soon after its birth, and at the time of its death had a mustache and beard. This case is not without precedent, as there are records of children dying of old age before they were ten years old. This, however, beats the record in the rapid development and decay of life. A German youth of one year had a long gray beard and died at fifteen.

Gems of Thought.

Evil deeds are serpents' eggs. It is not well to keep them around. They are liable to hatch.—B. L. Whitman.

Attainment is a hope rather than a possession, and enduring and striving in hope is the normal condition of him who would attain.—H. Clay Trumbull.

We are not all called to great service; but we are called to sympathetic interest in those who are so, and to help them as we may.—Alexander Maclaren.

He who thinks he can find within himself the means of doing without others is much mistaken, but he who thinks that others cannot do without him is still more mistaken.—Rochefoucauld.

No quality will ever get a man more friends than a sincere admiration of the qualities of others. It indicates generosity of nature, frankness, cordiality and cheerful recognition of merits.—Dr. Johnson.

It is excellent to say "God of our fathers," and to have one's piety linked to the past; but it is best to say "My God," and to possess a faith that is unassailable, because it has been won by our own hand, and is part of our own soul.—Ian Maclaren.

Only in the sacredness of inward silence does the soul truly meet the secret, hiding God. The strength of resolve, which afterwards shapes life and mixes itself with action, is the fruit of those sacred solitary moments when we meet God alone.—Christian Life.

We need not be afraid that we shall go too far in serving others. There is no danger that any of us will ever go too far in the walk of active love. There is no likelihood that any of us will become too bountiful, too kind, too helpful to his neighbor.—J. C. Hare.

People who make puns are like wanton boys that put coppers on the railroad tracks. They amuse themselves and other children, but their little trick may upset a freight train of conversation for the sake of a battered witticism.—Oliver Wendell Holmes.

The one fact in which all unavoidably agree is that we come into the world alone and we go out of the world alone, and though we travel in company and make a great show of our fellowship and of bearing one another's burdens, we carry our deepest burdens alone.

He is not rich that hath much, but he that hath enough; nor he indigent that hath little, but he that craves more. For we are not rich or poor, happy or unhappy, honorable or mean, so much according to the proportion of that which we possess as of that which we desire.—William Penn.

Life is hard for many people, and we have no right to withhold any look or word or touch or act of love which will lighten the load or cheer the heart of any fellow struggler. The best use we can make of our life is to live so that we shall be a benediction to every one we meet.—J. R. Miller, D. D.

What a strange power there is in silence! How many resolutions are formed, how many sublime conquests effected, during that pause when the lips are closed and the soul secretly feels the eye of her Maker upon her! They are the strong ones of earth who know how to keep silence when it is a pain and grief unto them, and who give time to their own souls to wax strong against temptation.—Emerson.

Not everyone knows good advice when he sees it. Most often the best advice does not tell a person in direct language just what he ought to do and how he ought to do it. Good advice ought usually to make one think before he acts. This helps to develop the whole man, by treating him as a rational being instead of making a machine of him. Show a man who needs advice what the conditions of his case are, what results are likely to show themselves in the event of certain courses of action, and let him choose what he will do. This is not taking his hand and moving it for him, but it is aiding him to the use of his judgment, his reason, his intelligence, and to the honoring of his personal responsibility.

DOMESTIC ECONOMY.

Domestic Hints.

Sunset Pudding.—Make one pint of pink lemon jelly and one pint of orange jelly, and when both are thick enough to drop, pour a little of the pink into a mould, then all the orange and lastly the remainder of the lemon. When served, turn it out on a flat dish and pour one pint of vanilla custard around it, or garnish with one pint of whipped cream.

Lemon Jelly.—One-half box gelatine soaked in one cup cold water; one stick cinnamon soaked in one pint boiling water for ten minutes; the gelatine dissolved in the boiling water and strained. One cup sugar and one-half pint lemon juice added. To make a pink jelly, scant the half box gelatine and use one teaspoonful of pink gelatine in addition.

Cold Slaw Dressing.—The simplest is to add to two large tablespoonfuls of whipped sweet cream two of sugar and twice that amount of vinegar with salt to taste. Again, a simple French dressing is good over cabbage. So is that made by beating the yolks of three hard-boiled eggs to a paste, then seasoning with one small teaspoonful of French mustard, half a teaspoonful of salt and a pinch of cayenne pepper. After these ingredients are well mixed, gradually add, while stirring, enough vinegar to make the dressing the consistency of cream. Pour this over one pint of chopped or shredded cabbage.—Good Housekeeping.

Pickles.—Here is an old Maryland recipe for pickles: One-quarter pound of small onions, cut up, one-quarter pound of green tomatoes, sliced, two large peppers, sliced, one-half pint small red and green peppers. Sprinkle one pint of salt over them and let them drain all night. In the morning, drain off every drop of juice. Mix together one ounce white pepper, one ounce celery seed, one ounce mace, one-half ounce of cloves, one-quarter pound brown sugar and one piece of grated horseradish. Cover all over with best vinegar—about one gallon. After putting in pot thus—first layer pickles, then layer of spices (the latter having been well mixed together), two tablespoonfuls of made mustard dissolved in one-half cupful of water, and stirred into the pickles last—cook a long time. This quantity makes about two gallons of pickles.

In Canning Fruit.

Using a reliable make of glass jars and testing the air-tight quality of each by pouring a little water into it, adjusting the rubber and cover and standing it upside down.

Thoroughly cleansing all jars that have been used, by washing them first in warm water, then filling full of scalding hot water, to which borax, ammonia or washing soda have been added, and and allowing them to stand at least two hours before rinsing.

Rejecting all old rubber bands that are stretched out, discolored or in the least hardened.

Using firm, large fruit of suitable varieties and having it under rather than over ripe; rejecting all that is crushed, over ripe, stunted or knotty and carefully preparing the rest. Washing currants on the stems and strawberries before they are hulled.

Washing all small fruits quickly and pouring water on the fruit and then drain, allowing the pits of cherries and peaches and the seeds of pears to remain in the fruit; or if this is objectionable, distribute five or six peach pits through each quart jar and put a small white net or thin muslin bag containing a handful of cherry pits or pear seeds in each similar sized jar.

Paring peaches with a thin-bladed, sharp knife instead of scalding them in lye; not removing the skins of plums, but piercing each one two or three times with a fork to prevent the skins from breaking badly while cooking, using only sugar either granulated or loaf, and only enough to impart a pleasant, palpable taste.

Cooking the fruit in the jars so that it is not broken by handling, or its flavor lost in the escaping steam. To do this, place the fruit in jars as fast as it is prepared, cover with syrup to the neck of the jar, then put on the cover, but not the rubber band. Set a boiler or other suitable vessel on the back of the furnace or heating apparatus, place the jars of fruit inside, but not close enough together to touch, fill the vessel with hot water until it reaches to within an inch of the top of the jars, draw it to the front of the range, cover closely, and bring to a boil. Continue boiling ten minutes (longer for larger firm fruits), or until the fruit can be easily pierced with a fork, and then draw the vessel to the back of the furnace.

Take out a jar, set it on a folded wet towel, fill it to overflowing with boiling water, wipe off the neck, adjust the rubber and cover, and screw the latter tightly. Treat each jar in this manner, and as they cool endeavor to tighten the covers about once an hour. When nearly cold invert them all, as a final test that they are air tight.

Wrap each jar in paper or draw a paper bag over it from the top, label plainly on the outside, and keep in a cool dry place.

The flavor of canned fruit is greatly improved by opening it two or three hours before it is needed, to restore the oxygen.

This is neither a new nor a difficult method of canning fruit, but it is virtually the same as that used by all manufacturers of such goods. And yet for some inexplicable reason, the majority of preservers fail to appreciate its superiority over the method commonly employed, and are content to produce a third or fourth-rate article—a sort of canned jam—if only it "keeps."—American Vinegar Maker.

Hints to Housekeepers.

Horse radish root put into a jar of pickles will keep vinegar from losing its strength and prevent mould from forming.

One cupful of butter packed firmly is a pound. Four cupfuls of flour make one pound. Two cupfuls of granulated sugar are the same weight.

A little kerosene oil is excellent for cleaning a zinc bath tub. Rub the oil on with a woolen cloth, then wash it off with hot water and polish with powdered bath brick. The result is very satisfactory.

Linoleum floor covering may be made to look bright and new by rubbing it with equal parts of salad oil and vinegar. Rub thoroughly with a flannel cloth and do not use too much of the mixture nor allow any of it to remain on the surface of the linoleum. If very much soiled, clean the covering by wiping with a cloth wet with soap and water before using the oil and vinegar.

And now comes a woman, who has long resided in the tropics as a missionary's wife, to tell us, according to the Philadelphia *Record*, how to eat a banana digestibly. When you have stripped off the willing rind, just scrape off the stringy and hairy coat that lies beneath the rind, and you may eat your banana without tasting it all the rest of the day. This word should be passed about widely.

To thicken clear soup use pearl tapioca. Let it boil clear and then add to the soup. Sweeten butter that needs it by placing it in a porcelain kettle with a little water, salt and soda. Let it come to a boil. Turn it into a stone jar, and set where it is cool. The impurities settle to the bottom, and the butter is not too salt for cooking. It will form a cake at the top of the water, which must be turned off.

If a family can digest and afford fresh fruit, there seems little necessity for providing a made dessert during the fruit season. What mixture of crusts and fruits, or what puddings can be more tempting than a dish of grapes, cold and clean, and garnished, if one has the means, with a few vines and flowers or ferns? Peaches, apples, pears and melons are all abundant and inexpensive just now, and make the most delicious of desserts.

A Pretty Waist and Practical Apron.

A BECOMING JACKET-WAIST.
1002—Vineto Jacket-Waist.
Sizes for 14 and 16 Years.

This model is especially designed for a young girl's dressy house waist, but is also suitable for street wear, and can be made to complete a gown. The simple full blouse, with gigot sleeves, is of fancy taffeta, and the jacket of velvet or fine cloth. The shoulder collar is square in the back, and it may match the jacket, or be made of silk or lawn, and trimmed with lace, or it may be of silk like the waist. This jacket may be made detachable, so that it may be worn with various waists or blouses.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

A COOKING APRON.
993—Dorcas Apron.
Medium Size.

This practical pattern is as simple as such a thing can be made, and has not a single band or button to get out of order. Checked and corded lawns make the most serviceable white aprons, and all kinds of ginghams are suitable. Blue denim has been adopted by art students, and has the recommendation of bearing the hardest usage. There are but two seams in the pattern and the pockets should be stitched on the side breadths before the seams are sewed. An inch wide bias band makes the neatest finish for the edges, and should be carried around the entire apron.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

Fashion Notes.

In jacket shapes for the autumn, both loose and fitted forms will be favored. The collars will be high standing bands finished with ruffs, falling frills, tabs, Vandyke points, wing piece, crenelated bands of velvet, and other fancy shapes formed and decorated to conform with the rest of the coat. The sleeves, as a rule, are of the modified mutton-leg shape, finished either with a flare at the wrist or turned back with a deep machine-stitched cuff.

The greatest novelty in wraps is the model with a fitted back cut in three pieces, with dolman sleeves sewed in with the back seams, but falling loosely in front. The collar is in Stuart shape, finished with braiding, gimp in rows or simple machine stitching.

The majority of the most fashionable corsages are either seamless and drawn over glove-fitting linings, or merely fitted with side forms, with the immediate front and back shirred or plaited. It is of less consequence, however, than formerly how perfectly they are adjusted after the lining has been fitted, since the actual bodice is now merely a foundation for elaborate decoration, under which it is nearly hidden from sight. The manner of disposing the the flaring shoulder trimming, revers, berthas, fichus, vests, tabs, points and plastrons, varies indefinitely, especially on youthful round-waisted bodices, and side by side with some exceedingly picturesque and charming effects appear others elected for by women far past their first youth, that are certainly nothing but smile-provoking simulations and burlesques; and why they insist upon selecting these unbecoming styles, with the world of fashion full of appropriate complimentary modes, particularly suited to their age and outline, is a mystery of many years' standing.

Separate waists, we were told a year ago, were going out of fashion. Again it is stated positively that next winter they will be entirely out of date. Undoubtedly the very handsomest and newest costumes that are made will have waists and skirts to match, but the fashion is one that is too useful to pass entirely out of sight, and there are a great many new styles which are bound to meet favor.

The changeable silks are made up very much just now in waists. An exceedingly pretty one of changeable blue and green, fashioned to wear with black satin skirt, is folded, surplice fashion, into a most perfect-fitting black satin corselet. A ruche of black satin with a frill of the changeable silk and an inside ruching of white lace is made to wear with this waist, or separate from it, if so desired, and it is as smart a garment as could well be devised.

To make a navy blue becoming to a sallow skin combine rich bright cardinal with it, silk or cloth, for a flat or full vest, according to your figure. Then wear a crush collar of red taffeta ribbon five inches wide, tied in a short bow at the back.

The white materials selected for wedding gowns are satin, silk and satin brocade, taffeta silk, mousseline over silk, peau de soie and silk crepon. If one wishes inexpensive goods select Swiss, mull, fine wollen crepon, plain or figured Japanese silk.

Painted China silks are not in the height of fashion, but they are very pretty for tea gowns with a front of plain silk. They are reduced in price until in the large cities handsome patterns and an excellent texture sell for fifty to seventy-five cents a yard.

The skirts to be worn this autumn will flare on the lower edge, be five yards wide, have a stiff interlining from ten to fifteen inches deep all around to give the very desirable flare, as only the proper interlining can do, and remain as close-fitting around the hips as they are now.

In London shirt waists of fine cloth in pretty monochromes or French flannel in fancy stripes and checks are finished with linen collars and cuffs.

A stylish gown for early autumn wear is formed of sheer grass linen, made up over cerise satin and elaborately decorated with cherry satin ribbons, including shoulder bows and a belt with many loops and ends. The full bodice has five half-inch tucks on either side below a pointed yoke of embroidered linen, finished with a twist of the ribbon, ending on either side of the yoke in a small rosette.

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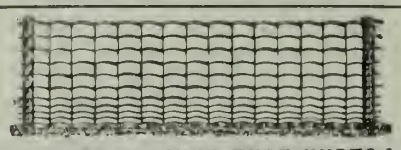

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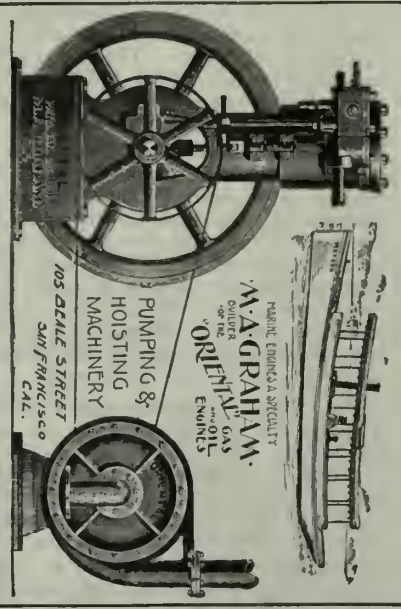

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OF THE PACIFIC COAST.
THIRD ANNUAL HORSE SHOW
WILL BE HELD AT THE
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$15,000 IN CASH PRIZES AND PLATE
OFFERED FOR ALL CLASSES OF HORSES.
Over 30,000 People Attended Last Year.
FREE TRANSPORTATION ON RAILROADS FOR HORSES ONE WAY.
SHOW OPEN DAY AND EVENING.
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GEO. A. NEWHALL, Secretary. HENRY J. CROCKER, President.
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Owing to old age and inability to work, I would now sell a half interest in two or three Navel Orange Groves, near town, at much less than their value and on very easy terms to the right kind of a younger man, to work and manage them. An unequaled opportunity for an industrious man to secure a competence without risk. Address
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The Best Feed for Stock, Chickens and Pigs.
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Patrons of Husbandry.

Tulare Grange Mourning for Brother Ohleyer.

WHEREAS, Tulare Grange has been pained to learn of the death of Bro. Geo. Ohleyer, W. L. California State Grange. By his frequent correspondence with our members and the Grange, we were made to recognize him as a shining light; his advice and counsel was such as to cause us to rally around him with such tenacity that nothing but Death itself could pull him away from us; and among us, amid all people, at all times and under all cirstances, he

"Bore without abuse
That grand old name of gentleman."

Therefore, be it

Resolved, Our loss is truly great, both in and out of the Order. We mourn for one whose life was spent in the service of the farmer, his home and fireside; ever honest, and ever willing to freely give his ability in the cause of the Grange.

Resolved, That the sincere sympathy of Tulare Grange be and is hereby tendered to the bereaved family.

Resolved, That a copy of these resolutions be sent to the family of our deceased Brother; also, to the RURAL PRESS.

E. C. SHOEMAKER, Committee.

Grange Notes.

At its last meeting Tulare Grange passed resolutions in memory of its late brother, A. W. Matthewson.

Tulare Grange will hold a Farmers' Institute some time this fall in co-operation with the State University.

Rev. Anna Shaw, the woman suffrage orator, is a member of Philadelphia Grange, and will be in attendance one day at the coming State Grange at Sacramento — probably the 8th. It goes without saying that she will have a very respectful hearing.

The twenty-fourth annual session of the State Grange will convene at Sacramento on Tuesday next in the Senate chamber of the State capitol.

AT the headquarters of the Inter-Continental Railroad Survey, in Washington, D. C., the great work of preparing the preliminary plans for a railway to unite North and South America has been going on in a quiet way for several years. The survey has been carried southward by Mexico and northward by Brazil, while the detailed connecting survey has been done in Central America by a detail of United States Army officers under the direction of Lieutenant Macomb. The results of the field work are now being reduced and computed. The extent of the survey involved geodetic work of magnitude, and the final results checked up in a most satisfactory manner. Many of the altitudes were first determined by the barometer, and the chosen altitudes were subsequently measured either trigonometrically or by spirit leveling, and the closeness which appeared between the barometric determinations and the subsequent measurements was gratifying to those who believe that the barometric method still has a future before it.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING SEPT. 15, 1896.

567,702.—FRUIT PITIER—Allman & Ingham, Pasadena, Cal.
567,877.—FAUCET—J. H. Beare, S. F.
567,736.—ALMOND SHELLER—A. H. Cope, Danville, Cal.
567,889.—MINER'S LANTERN—Hattie Delzell, Jackson, Cal.
567,643.—ANNUNCIATOR—H. P. Frear, S. F.
567,741.—PUMPING APPARATUS—P. Frichette, Sheridan, Cal
567,831.—SUSPENDERS—Holt & Eldred, Seattle, Wash.
567,900.—PERMUTATION LOCK—S. C. Houghton, S. F.
567,648.—THRESHING MACHINE—H. H. Lamont, S. F.
567,748.—PHOTOGRAPHS IN RELIEF—T. C. Marceau, S. F.
567,910.—COMB—P. W. Mathews, Eureka, Cal.
567,684.—EGG WHISK—T. A. Moody, Santa Monica, Cal.
567,813.—TREE SUPPORTER—E. Morgan, Fresno, Cal.
26,044.—DESIGN FOR CORSET—A. J. Claveloux, S. F.
26,043.—DESIGN FOR GUITAR—C. Knutsen, Port Townsend, Wash.

NOTE.—Copies of U. S. and Foreign patents furnished by Dewey & Co. in the shortest time possible by mail or telegraphic order). American and Foreign patents obtained, and general patent business for Pacific Coast inventors transacted with perfect security, at reasonable rates, and in the shortest possible time.

California Fruit Sales.

CHICAGO, September 23.—California fruit sold to-day as follows: Grapes—Tokay, 65c@$1.45; Muscat, 70c@$1.40; Cornichon, $1.40; Black Morocco, $1.45. Pears—Bartlett, $1.70@2.05. Prunes—Hungarian, $1.20@1.30.

NEW YORK, September 23.—California fruit sold to-day as follows: Pears—Bartlett, $1.25@2.10; mostly $1.90 per box and $1 20 per half-box. Grapes—Tokay and Muscat, 55c@$1.50 per single crate; assorted, $1.05@1.25; Black Morocco, 70c@$1.20. Quinces, $1.30 per box. Prunes—Gros, $1.20 per half-crate. Peaches, 40@75c per box.

CHICAGO, September 24.—California fruit sold to-day as follows: Grapes—Tokay, $1.15@1 40; Muscat, $1.10@1.25 Pears—Bartlett, $1.60@1 90. Peaches—Salway, 60@75c.

NEW YORK, September 24.—California fruit sold to-day as follows: Grapes—Tokay, $2 85 per double crate and $1.15@1.45 single. Pears—Bartlett, $1.95@2.85 per box and $1.30 per half-box; Comice (seconds), 95c@$1.90 per box: Nellis, $1.50; Sickles, $1@1.05. Plums—Columbia, $1 per half-crate. Peaches—Salway, 45c@80c per box; Clings, 55@70c.

CHICAGO, September 25.—California fruit sold to-day as follows: Grapes—Muscat, $1.10@1.25; Tokay, 80c@$1.35. Plums—Kelsey, $2.15. Pears—Bartlett, $1.60@1.95. Peaches, 35@60c.

NEW YORK, September 25.—California fruit sold to-day as follows: Grapes—Tokay, $2.70 per double crate, 80c@$1.50 single; Muscats, 90c@$1.25; assorted, 90c@$1.10; Black Morocco, 80c@$1.10. Pears—Bartletts, 80@$1.05 per half-box. Peaches—Salway, 65c per box; Clings, 45@60c.

NEW YORK, September 28.—California fruit sold to-day as follows: Pears—Bartlett, $2.30 per box; Winter Nellis, 95c per half-box; Duchess, 75c. Grapes—Tokay, 70c@$1.50 per single crate; assorted, 60c@$1.20; Muscat, 55@95c; other varieties, 60@90c. Peaches—Salway, 60@90c per box; Picquets (late), 60@80c; other varieties, 50@70c.

CHICAGO, September 28.—California fruit sold today as follows: Grapes—Tokay, $1.05@1.45; Muscat, $1.05@1.20. Pears—Bart ett, $1.80@2; Comice, $1.35; Buerre Clairgeau, $1.25. Silver Prunes, 90@95c.

CHICAGO, September 29.—California fruit sold to-day as follows: Grapes—Tokay, 50c@$1 10; Muscat, 75c@$1.50; Black Morocco, 85c@$1.45; Malaga, 95c@$1.25. Pears—Winter Nellis, $1.25; Buerre Hardy, $1.25. Prunes—Italian, $1.10; Silver, 90c.

AN entire locomotive-making plant will be taken soon to St. Petersburg from Philadelphia, to be erected at Nijni-Novgorod, the commercial metropolis of the interior of the Russian Empire. Contracts for machinery for the plant amounting to over $500,000 were awarded to American manufacturers, most of them going to Philadelphia firms. The plant is to be built for the Sarmova Works, an extensive establishment engaged in manufacturing cars, steamboats, steam boilers and employing 5000 hands. The locomotive plant will have a capacity for building 200 engines a year, and will employ about 1000 hands. All of the foremen and engineers will be Americans. The buildings have been completed and are now ready to receive the machinery. The Czar has given valuable encouragement to the enterprise. Nearly 85 per cent of the railways in the Empire are operated by the Government, and the new company will get a great share of the work for them. The company will be known as the Russian-American Manufacturing Company. — Scientific American.

IN the mining and foundry district of Bochum, Prussia, Dr. Nieden reports having treated during the years 1885–94, 5443 patients engaged in such occupations, of whom more than 68 per cent were cases of injury to the eye in their calling, iron and foundry workers showing a large predominance in this respect over miners. Of 3723 iron and foundry workers treated for eye injuries, 2805 were for the left eye and only 1638 for the right, or a relative proportion of 56 to 44; and, as a similar proportion held good in each separate year, the conclusion arrived at is that in such work the danger to the left eye is really greater than that to the right. Even more marked, in fact, was the proportion in respect to the severe cases, the left eye being quite lost in seventeen cases, the right only in seven. It is urged, therefore, that in iron workers the loss of the right eye should be calculated as the more serious, inasmuch as the individual then runs a greater risk of injuring the remaining eye than when he has lost the left.

A PHYSICIAN advances the theory that the sensation of nausea has its seat in the brain and not in the stomach, and that relief may be obtained by cooling the base of the brain. He claims to have tested this often and thoroughly in the case of sick headache, bilious colic, cholera morbus and other ills in which the nausea is a distressing symptom, without a single failure; also that he once relieved the nausea resulting from cancer of the stomach by the application of ice to the back of the neck and occipital bone.

THE German export trade in barb wire to Japan is suffering greatly under the pressure of American competition. The Hamburg exporters are being forced to buy American barb wire, for their foreign customers have commenced to make their purchases in this line directly in the United States, thus evading the Hamburg middleman. Confronted by the alternative either to lose this trade or to buy American barb wire themselves they decided to take the latter course because they were afraid that the loss of this trade might result in the loss of trade in other lines, for it is a well known fact that business relations once formed will extend to other articles. Matters in the wire nail export are exactly similar. The Americans export wire nails via Hamburg to Japan at figures which the German wire nail manufacturers cannot attempt to meet.—American Manufacturer.

ACONCAGUA, the highest peak on the Western Hemisphere, is to be attempted again this fall by E. A. Fitzgerald, who explored the New Zealand Alps. If he succeeds in getting to the top, which is 23,200 feet above sea level, he will beat the highest mountain-climbing record, Sir W. M. Conway's 22,600 feet ascent of Pioneer Peak in the Himalayas. Dr. Gussfeldt has tried Aconcagua, but got into trouble with his guides and had to turn back 2000 feet from the summit.

ELEPHANTS in Africa are becoming so scarce that it is proposed to establish protected reservations for them on territory under British protection, like Somaliland.

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No remedy is the superior of BICKMORE'S GALL CURE. Cures Harness and Collar Galls, Cuts, Speed Cracks, Grease Heel and Scratches in horses WHILE THEY WORK Cracked & Chapped Teats in cows, and all kinds of External Sores in man. If dealer should not have it send 10 c. for trial sample.

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Wanted.

A young man wants work on a Stock Ranch with a view to learning the business. Wages no object. Address H. S., this office.

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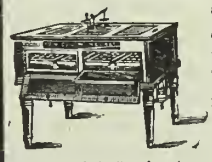

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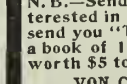

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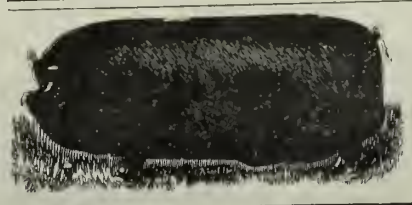

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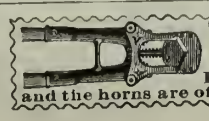

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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Sept. 30, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Tuesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	87,998	1,576,145	942,814
Wheat, ctls	624,027	3,393,898	2,102,406
Barley, ctls	382,336	2,218,250	1,040,986
Oats, ctls	18,030	128,095	186,758
Corn, ctls	575	36,449	21,041
Rye, ctls	520	10,146	9,282
Beans, sks	15,457	84,807	52,480
Potatoes, sks	19,665	260,815	267,935
Onions, sks	3,035	42,664	38,869
Hay, tons	4,040	53,164	51,454
Wool, bales	1,331	12,582	18,612
Hops, bales	885	1,866	1,471

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	114,296	1,290,536	665,803
Wheat, ctls	260,152	2,988,572	2,337,507
Barley, ctls	448,888	1,607,794	589,238
Oats, ctls	652	6,752	4,982
Corn, ctls	.....	3,841	5,441
Beans, sks	1,281	55,152	44,739
Hay, bales	2,369	10,070	8,889
Wool, lbs	.....	3,130,112	5,544,000
Hops, lbs	12,485	254,240	262,986
Honey, cases	23	759	3,936
Potatoes, pkgs	1,463	23,412	30,700

Grain Freights and Charters.

There has been less business in this market than for some weeks preceding, and transactions reported were all prior arrival engagements, the harbor being almost bare of disengaged ships suitable for the grain-carrying trade. While there was no material or quotable decline in deep-sea freights, the market showed more weakness than at date of last review, due to the stiffer figures established for grain. Holders of ships here or near at hand were not inclined, however, to make marked concessions. With a more liberal supply on the spot of deep-sea tonnage, easier freight rates would very likely prevail.

Charters.

British ship Valkyrie, 2172 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 6s 3d; direct port, £1 5s 6d—chartered prior to arrival.

British ship Bermuda, 2263 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 8s 9d—chartered prior to arrival.

British ship Armida, 1624 tons, wheat to Cork, U. K., Havre, Antwerp or Dunkirk, £1 7s, net—chartered prior to arrival.

Italian ship Cavaliere Ciampa, 1703 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 6s 3d, net—chartered prior to arrival.

Dutch ship Nederland, 1955 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 6s 9d; direct port, £1 5s—chartered prior to arrival.

British steamer Egremont Castle, 1873 tons, wheat to St. Vincent for orders; one port, £1 6s 3d; if to two ports, £1 7s 6d—chartered prior to arrival.

British steamer Strathness, 2995 tons, wheat to St. Vincent for orders; one port, £1 6s 3d; if to two ports, £1 7s 6d—chartered prior to arrival.

British ship Jane Burrill, 1835 tons, wheat to Cork, U. K., Havre, Antwerp or Dunkirk, £1 5s; direct port, £1 3s 9d—chartered prior to arrival.

British ship Port Caledonia, 2320 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 6s 3d—chartered prior to arrival.

Italian ship Salvatore Ciampa, 1695 tons, wheat to Cork, U. K., Havre, Antwerp or Dunkirk, £1 6s 3d, net—chartered prior to arrival.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive.
1896	68,414	8,160	295,384
1895	67,362	17,032	305,205

Flour.

This market is moderately firm at the quoted advance. Favorite marks of high-grade more especially are held at stiffer rates than at any previous date this season. Outside brands and ordinary qualities are in fairly liberal supply, with demand for the same not very active or urgent, and buyers of such stock are still able to obtain concessions from full asking figures. Still, taking the market as a whole, it presents a much better tone than for some time past.

Superfine, lower grades	$2 25@2 35
Superfine, good to choice	2 45@2 60
Country grades, extras	3 00@3 40
Choice and extra choice	3 40@3 65
Fancy brands, jobbing	3 75@4 00
Oregon, Bakers' extra	2 90@3 25
Walla Walla, Bakers' extra	2 90@3 25

Wheat.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	4s 11d@5s 1d.	6s 1d@6s 2d.
Freight rates,	—@24s.	30@31¼s.
Local market,	$0.92½@95	$1.10 @1.15

The prices above are for spot lots of standard No. 1 California in Liverpool, and for good to choice shipping in this city.

Immediately following last review, there was a further sharp advance here in wheat values, both in options and in offerings by sample. Spot wheat was quotable up to $1.07½ for No. 1 shipping delivered alongside, while choice milling wheat was not at same time obtainable under $1.10. There was a lull Saturday in Eastern centers and an easier market here on Call Board. Spot values, however, showed no quotable decline. The easier feeling proved quite temporary, as Monday's market was excited and higher, with active speculative trading. Prices for December and May deliveries advanced on the local Call Board about 2c above the highest figures of the previous week. Values for spot wheat were at same time on a quotable basis fully 50c per ton above the highest figures previously obtainable this season, and fully $2 per ton better than prices current a month ago. Much of this advance was due to the feverish feeling of shorts, who were seeking cover from heavy losses; but this uneasiness was brought about by a thorough realization of the fact that European reserves are at a lower point than they have been for five years or more, and that there is a shortage in European requirements which is likely to absorb this season our entire surplus. Australia is importing instead of exporting, and India is furnishing less than for some seasons past. That there is a good export demand for wheat is clearly illustrated by the fact that wheat clearances from this port have averaged over one ship per day, Sundays and holidays included, for the entire month of September. The market Tuesday and Wednesday continued on the up grade, both here and abroad, and closed very strong, with prices Wednesday at the highest point of the week.

California Milling	$1 10 @1 15
Cal. No. 1 shipping, alongside	1 10 @1 12½
Oregon Valley	1 07½@1 10
Walla Walla Blue Stem	1 02½@1 15
Walla Walla Club	1 02½@1 10

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, $1.08 @ $1.17⅞.

May, 1897, delivery, $1.11½@1.19⅝.

Wednesday, at regular noon session of Call Board, December wheat sold at $1.16¾@1.17⅞; May, $1.18⅞@1.19⅝.

Barley.

The liberal export movement of barley from this port during the past three months, or since the current season opened, is the largest on record for corresponding period. Shipments for the season to date aggregate over 80,000 tons, while for the entire season of 1895 they footed up only 116,000 tons. Market the current week has displayed more firmness than at any previous date this season, and particularly has the tendency on desirable shipping grades been in favor of the selling interest. Not only have Chevalier and the ordinary variety of Brewing been in good request on export account, but bright feed barley has been taken in wholesale quantity for shipment abroad. Dark colored, foul and low-grade barley is salable only on local account, and, consequently, has to go at comparatively low prices. Market closed strong, both for options and spot offerings.

Feed, No. 1 to choice	70 @72½
Feed, fair to good	65 @67½
Brewing, No. 1 to choice new	75 @80
Chevalier, No. 1 to choice	90 @1 00
Chevalier, No. 2	65 @80

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, 71½ @ 78c; May, 1897, delivery, ——@——c.

Wednesday at regular noon session of the Call Board, December feed sold at 77@78c.

Oats.

There are moderate receipts of this cereal from Washington and from oat-producing sections in this State, but very few are being received from Oregon. The crop in Oregon is reported as exceedingly light, and is not of very large volume in Washington, as compared with former seasons. Owing to the rather light yield, holders are, as a rule, firm in their views, but trade has not been active at the rates generally demanded. Buyers are slow in getting educated up to the new range of prices.

White Oats, fancy feed	95 @1 00
White, good to choice	85 @ 90
White, poor to fair	77½@ 82½
Gray, common to choice	85 @ 90
Milling	87½@ 92½
Surprise, good to choice	1 00 @——

Corn.

Much the same unsatisfactory condition of affairs for the producing and selling interest, as previously noted, is still being experienced in the market for this cereal. The demand is of insignificant proportions, and is almost wholly confined to immediate local needs. Not for many years has the export inquiry for this cereal been so light as this season.

Large White, good to choice	75 @ 77½
Large Yellow	82½@ 85
Small Yellow	85 @——

Rye.

Market is showing a firmer tone than for some time past, with probability of some export trade being developed, if supplies can be obtained in sufficient quantity to warrant shippers in taking hold.

Good to choice, old	——@——
Good to choice, new	65 @ 70

Buckwheat.

There is no evidence of any business worth mentioning being transacted in this cereal. Values remain nominally at same range as before noted.

Good to choice	95 @1 00

Beans.

The condition of the New York bean market is given as follows by an Eastern review, prices quoted being per bushel of 60 pounds:

The business of the week has been considerably lighter. Export orders from the West Indian markets have come to hand slowly, the Havana trade being affected largely by unsettled financial conditions, and home jobbers have bought stock cautiously, rarely taking more than was needed for current use. But receipts of domestic stock were very moderate and the strength of interior advices and firm advancing markets in Europe have continued to give the position an undertone of firmness. Up to the present writing we have seen no new beans, and there appears to be no thought of hastening them forward, which is a wise policy in view of the quantity of old stock still left on hand. Early in the week prices were pushed a little higher on some varieties, then came a check to the upward turn and the market has since held generally steady. Most sales of strictly choice Marrow are now at $1.30. Medium incline to firmness at $1.10, and best marks of Pea, though not exceeding $1.10, are offering rather reservedly. No further sales of White Kidney, but not much stock here to trade on. Red Kidney have had a light movement in the usual channels, but a number of lots have gone to outside points, and the price of best stock has held steady at $1.25. Turtle Soup slow. Yellow Eye have leaned more in sellers' favor. California Lima have continued to decline under a very dull trade, only jobbing at $1.40. European exporters have been in search of old foreign beans and have paid up to 90c in bond; not much of this stock left. Green peas have advanced under stronger Western advices.

It is encouraging to note that this market is presenting a better tone than for some months past, but there is still not much reason to hope for any very substantial advance in the near future. Carry-over stocks are too heavy and the shipping demand too light to warrant anticipating any high or very remunerative prices the current season. Lady Washington and Pea beans arriving from the Sacramento river district have been finding custom at slightly improved figures. Limas remain favorable to buyers, both here and at producing points. There are few other new-crop beans now arriving.

Pea, fair to good, 100 lbs	$1 10 @1 25
Small White, good to choice	1 00 @1 15
Lady Washington	1 00 @1 10
Butter, small	1 10 @1 25
Pinks	80 @ 90
Bayos, good to choice	1 10 @1 25
Reds	1 20 @1 30
Red Kidneys	1 25 @1 50
Limas, good to choice	1 60 @1 75
Black-eye Beans	1 10 @1 25
Horse Beans	70 @ 80
Garbanzos	1 25 @1 50

Dried Peas.

Spot supplies are of light proportions and in few hands. Choice Green are scarce and salable to advantage.

Green Peas, California	$1 25 @1 60
Niles Peas	1 00 @1 20

Wool.

Again this market has relapsed into an exceedingly quiet state. Local buyers find little or no encouragement to operate and are awaiting future developments. Whether there is to be protection or no protection to the wool industry is the problem now uppermost in the minds of those interested in this product. There will naturally be more or less uncertainty until after the national election now near at hand. During the past day or two more confidence has been shown, with considerable inquiry from Eastern centers.

SPRING.

Humboldt and Mendocino	9 @11
Northern California free	—— @——
Northern defective	5 @ 6
San Joaquin Foothill, good to choice	—— @——
San Joaquin, 12 months	4 @ 6½
San Joaquin and Southern, 6 months	4 @ 6
Nevada, as to condition	7 @ 9
Oregon Valley, select	9 @10½
Oregon Valley, low grade	8 @ 9½

FALL.

San Joaquin	3½@ 5

Hops.

Late advices by mail from New York give the following report of the hop market in that center:

Trade drags along in a dull, listless manner, with none of the conditions that have an important bearing upon the market at all improved. The fact that brewers are carrying good stocks of old hops make them very indifferent about taking hold of new, and we have not for years had to record so little business at this season. A few bales of the late crop have been received from this State and the quality is very unsatisfactory; indeed the more we see of the new crop by samples the more conclusive is the evidence that the lack of fertilization and proper cultivation will give us a lot of poor stock this season. The hops are weak and of a dull dingy color. Sufficient baling has been done to afford a better idea of the yield in this State, and it does not seem probable that the skrinkage from last year will be over 25 per cent. From the Pacific coast the advices are more favorable as to the yield and quality; while the crop is still generally estimated at about 100,000 bales, some dealers think that 110,000 bales will be picked, and from the few samples received so far better quality than last year is expected. The weather in both England and Germany has been quite unfavorable of late and the hops are feeling the effects of it. Careful estimates of the English crop place the yield at £225,000 old duty. Regarding values on the local market we see no occasion to make any radical change. Very choice '96 State would bring 10c and the finest of the '95 growths are held rather steadier; off qualities are weak and unsettled.

There have been fair receipts lately of new crop, but arrivals have been mostly if not wholly confined to deliveries on contracts. That buyers will come out even on their contracts is by no means certain. Some would certainly prefer being excused from taking hops at the prices stipulated, as they cannot be placed to-day at the figures named in most of the early contracts.

Fair to choice, 1895 crop	2 @ 4

Hay and Straw.

The market for hay is without any specially encouraging feature. Although arrivals are not of such unwieldy proportions as a few weeks ago, receipts continue more than ample for immediate requirements. Sellers find it exceedingly difficult to obtain full current rates, low as they are, for other than most desirable offerings. Straw finds slow sale at former easy rates.

Wheat	5 00@ 9 50
Wheat and Oat	5 00@ 8 00
Oat	5 00@ 7 00
Barley	5 00@ 7 50
Clover	5 00@ 7 00
Stock Hay	4 00@ 5 00
Alfalfa, first cutting	4 00@ 5 00
Alfalfa, second cutting	5 50@ 6 50
Compressed	6 00@ 9 00
Straw, ₱ bale	25@ 35

Millstuffs.

Market for bran and middlings is showing a little firmer tone, but there is no noteworthy scarcity of supplies. Prices for rolled barley have been tending upward. Values for milled corn are without quotable change.

Bran, ₱ ton	11 50@13 50
Middlings	15 00@17 00
Barley, Rolled	15 00@15 50
Cornmeal	19 00@19 50
Cracked Corn	20 00@——

Seeds.

There is no evidence of any active trading in Mustard Seed, but desirable qualities could be readily placed, especially of Trieste or Wild Brown, market for latter being firmer than for Yellow. Offerings are not heavy of any description. Flaxseed market is quiet, and fully as unfavorable to sellers as previously quoted. The seeding season being near at hand, Alfalfa is again offering and at easier figures than a year ago.

	Per ctl.
Mustard, Yellow	1 50@1 75
Mustard, Trieste Seed	2 60@2 75
Mustard, Wild Brown	2 00@2 50
Flax	1 25@1 30
	Per lb.
Canary	2½@2¾
Rape	2 @2½
Hemp	3¼@3½
Alfalfa, Utah	6½@ 7

Bags and Bagging.

This market is inactive, as is invariably the case at this time of year. That there will be anything of consequence done in Grain Bags during the next few months is not probable. Carry-over stocks are not being urged to sale at current rates, as the stock cannot be duplicated out of next year's importations at equally low figures.

Grain bags, 22x36, spot	4¼@ 4½
Wool sacks, 4 lb	28 @——
Wool sacks, 3½ lb	26 @——
Gunnies	9 @——
Bean bags	4 @ 4¼
Fruit sacks, cotton	5½@ 7½

Hides, Pelts and Tallow.

No appreciable changes have been devel-

oped in quotable values or the general tone of this market since last review. Hides are ruling steady at the last noted advance.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	6½@—	5½@—
Medium Steers, 48 to 56 lbs	5½@ 6	4½@ 5
Light Steers, under 48 lbs	4 @ 4½	3½@ 4
Heavy Cow Hides, over 50 lbs	5 @—	4 @ 4½
Light Cow Hides, under 50 lbs	4 @ 4½	3½@ 4
Wet Salted Kip	— @ 5	— @ 4
Wet Salted Veal	5 @ 6	4½@ 5
Wet Salted Calf	6 @ 7	5½@ 6
Dry Hides, round lots, 7½@9c	9 @10	7 @ 7½
Dry Kip and Veal, 11 to 16 lbs	8 @—	6 @ 7
Dry Calf, under 4 lbs	— @15	— @10
Horse Hides, large		75@1 00
Horse Hides, medium		50@ 75
Horse Hides, small		25@ 50
Colts' Hides		—@ 25
Pelts, long wool, per skin		50 @60
Pelts, medium, per skin		40 @50
Pelts, short wool, per skin		20 @35
Pelts, shearling, per skin		10 @15
Deer Skins, best summer		20 @25
Deer Skins, good medium		15 @20
Deer Skins, thin winter		7 @ 9
Elk Hides		8 @ 9
Tallow, good quality		2½@—
Tallow, No. 2		2 @—
Goat Skins, perfect		20 @35
Goat Skins, damaged		10 @20
Kid Skins		5 @—

Honey.

Very little now coming forward from any quarter, and stocks in the hands of local dealers are light. Market is tolerably firm, due more to the very limited supplies than to any active inquiry at full current rates.

White Comb, 1-lb frames	10 @—
Amber Comb	7½@ 9
Extracted, White Liquid	5 @ 5½
Extracted, Light Amber	4½@ 4¾
Amber Colored and Candied	3¾@ 4
Dark Tule	2¾@ 3

Beeswax.

For prime to choice qualities the market presents a healthy tone, values remaining without quotable change. There is little or no call, however, for inferior stock.

Fair to choice, ℔ lb ..... 23@26

Live Stock and Meats.

Hogs are going at fully as low figures as last noted, with the demand mainly for medium-sized in fat condition. Large and fat hogs are selling better than small ones. Values for beef and mutton have remained without noteworthy change. Following are wholesale rates:

Beef, 1st quality, dressed, net ℔ lb	5 @—
Beef, 2d quality	4 @ 4½
Beef, 3d quality	3½@—
Mutton—ewes, 4½@5c; wethers	5 @5½
Hogs, hard grain fed, medium size, fat	2¾@—
Hogs, large hard	2½@ 2⅝
Hogs, soft and feeders	— @—
Hogs, country dressed	3½@—
Veal, small, ℔ lb	5 @ 6
Lamb, spring, ℔ lb	5½@ 6½

Poultry.

Market for most kinds has tended against sellers. Only large and fat fowls could be relied on to bring good figures. Such stock was not plentiful, and brought in most instances more than was warranted as a quotation on the ordinary run of offerings. Two carloads of Eastern poultry at the close of last week and two carloads more posted for the current week operated seriously against the advantageous sale of ordinary California or Oregon poultry.

Turkeys, live hens, ℔ lb	12@ 13
Turkeys, live gobblers	12@ 13
Turkeys, large young	14@ 15
Hens, Cal., ℔ doz	4 00@5 00
Roosters, old	4 00@4 50
Roosters, young, (full-grown)	4 00@4 50
Fryers	2 75@3 25
Broilers, large	2 75@3 00
Broilers, small	2 25@2 50
Ducks, young, ℔ doz	3 00@4 50
Ducks, old	3 00@3 50
Geese, ℔ pair	1 00@1 25
Goslings, ℔ pair	1 25@1 50
Pigeons, Old, ℔ doz	1 50@1 75
Pigeons, Young	1 75@ —

Butter.

The reduced figures established the previous week for fresh butter had the effect of recovering considerable of the trade which had gone on to packed. The market this week has in consequence shown an improved tone, and there was a disposition on the part of some jobbers to again advance rates. There was, however, no appreciable improvement established in values. On a few favorite marks going to special custom there was a slight hardening in prices, but for the more common qualities the market remained easy in tone. Packed descriptions were offered at unchanged figures and did not receive much attention.

Creamery extras, ℔ lb	21 @22
Creamery firsts	20 @21
Creamery seconds	19 @20
Dairy select	20 @—
Dairy seconds	16 @18
Dairy, soft and weedy	— @—
Mixed store	11 @13
Creamery in tubs	15 @16
Pickled roll	15 @16
Dairy in tubs	14 @15
Firkin, Cal., choice to select	14 @15
Firkin, common to fair	11 @12½

Cheese.

Market remains firm for mild-flavored new cheese of rich body, such being in favor with consumers. Well-seasoned cheese is in fairly liberal supply, and is meeting with active demand at prevailing rates, jobbers and retailers deeming prices too stiff to warrant them in purchasing beyond their immediate necessities.

California fancy flat, new	8½@ 9½
California, good to choice	7½@ 8½
California, fair to good	7 @ 8
California, "Young Americas"	8 @10

Eggs.

There were only moderate arrivals of California eggs, and particularly were strictly choice to select in limited receipt, but market was hardly so firm in tone as during preceding week, the demand being less active at the higher figures established. Dealers are running largely on Eastern eggs and local cold storage stock. Some retailers are fraudulently passing off selected Eastern for choice domestic.

California, select, large white and fresh	30 @—
California, select, irregular color & size	23 @28
California, good to choice store	16 @21
California, common to fair store	12 @15
Oregon, prime	17 @19
Eastern, as to section and grading	17 @22
Eastern, seconds	14 @17
Duck eggs	18 @20

Vegetables.

Most kinds now in season have continued plentiful as compared with the demand. Onions were in better request, and were less favorable to buyers. Tomatoes ruled very cheap. A marked decrease is observable in arrivals of Green Corn and Green Beans.

Asparagus, Fancy, ℔ box	— —@— —
Asparagus, common to good, ℔ box	— —@— —
Beans, String, ℔ sack	75@ 1 00
Beans, Wax, ℔ lb	1½@ 3
Beans, Garden, ℔ lb	2@ 3
Beans, Lima, ℔ lb	1@ 2
Cabbage, choice garden, ℔ 100	50@ 60
Cauliflower, ℔ doz	40@ 50
Corn, Alameda Sweet, ℔ crate	50@ 1 00
Corn, Berkeley, ℔ crate	35@ 60
Corn, Green, ℔ sack	25@ 75
Corn, Vacaville and Winters, ℔ crate	— —@— —
Cucumbers, Alameda, large box	15@ 25
Egg Plant, ℔ box	25@ 40
Garlic, ℔ lb	1@ 2
Okra, Green, ℔ box	25@ 40
Onions, Red, ℔ cental	—@ —
Onions, Yellow, good to choice	35@ 40
Peas, Green, ℔ sack	75@ 1 25
Peppers, Green Chile, ℔ box	25@ 50
Pepper, Bell, ℔ large box	40@ 50
Pickles, No. 1, ℔ 100 lbs	75@ 1 25
Pickles, No. 2, ℔ 100 lbs	40@ 50
Rhubarb, ℔ box	—@ —
Squash, Bay, ℔ large box	20@ 35
Tomatoes, River, per large box	—@ —
Tomatoes, Bay, ℔ box	15@ 25

Potatoes.

The arrivals of ordinary qualities, particularly from the Sacramento river district, were sufficiently liberal to keep the market for the same weak at former low range of values. For choice to select Burbank seedlings the market was fairly steady, offerings of this sort not being very heavy and holders as a rule not disposed to crowd business at the expense of making sharp concessions. Sweets sold at a wide range, there being a correspondingly wide difference in qualities.

IN SACKS.

Early Rose, River, ℔ cental	20@ 30
Peerless, River	—@ —
Garnet Chile, Mission	40@ 50
Burbanks, River	20@ 35
Burbanks, Salinas	60@ 90
Sweet Potatoes	75@1 25

The Fruit Market.

Fresh Fruits.

The market for fresh fruits has not shown much activity, the demand at present being confined largely to immediate local needs. It was the exception where supplies of any sort were particularly large, but the market in the main was rather easy in tone, especially for other than choice to select.

Apples of common to fairly good quality were in heavy stock, and custom for these was slow at a low range of prices. Strictly select, four tiers to the box, and free from worms or blemish of any sort, were in very light stock and salable to good advantage, some of very superior quality going at an advance on quotable rates.

Peaches are still arriving in fair quantity, but there are not many which could be rightly termed choice quality, or suited to the most particular trade. Values did not deviate materially from those quoted in previous issue, but only on best qualities did the market tend in favor of sellers.

Pears of the autumn varieties are now making a fair showing, but there are few of them which are sought after for their quality, finding custom more on account of being offered at tempting prices than for other reasons which frequently enter into the calculation where other fruits are concerned.

Plums are in light receipt, and will soon be out of season. The same remark applies to prunes. Market for both plums and prunes is not noteworthy for firmness or activity, but sales effected were at much the same figures as were realized the previous week.

Figs are not in large supply, but inquiry for this fruit is of a slow order at this date, and rather easy prices prevail. Pomegranates are offering in moderate quantity, sufficient to accommodate all buyers in quest of this fruit.

Watermelons have been going at reduced figures owing to unfavorable weather most of the week. Cantaloupes and Nutmegs have not fluctuated materially in quotable values.

Berries of all kinds in season were in light receipt, and desirable qualities were, as a rule, favored with a firm market. Longworth strawberries were too scarce to quote.

Grape market was somewhat easier than preceding week, with more of the ordinary qualities than could be accommodated with prompt custom, even at low figures. Select qualities, particularly such as were desirable for shipment, sold to tolerably good advantage.

Apples, fancy, 4-tier, per box	1 00@ 1 25
Apples, good to choice, 50-lb box	75@ 90
Apples, fair to good, 50-lb box	50@ 75
Apples, common, ℔ 50-lb. box	25@ 40
Crabapples, ℔ box	—@ —
Figs, Black, ℔ 2-tier 15-lb box	50@ 75
Figs, Black, ℔ 1-tier box	25@ 50
Figs, White, ℔ box	30@ 50
Nectarines, Red, ℔ box	—@ —
Nectarines, White, ℔ box	—@ —
Prunes, Falkenburg, ℔ crate	50@ 75
Prunes, Hungarian, ℔ box	—@ —
Prunes, German, ℔ 50-lb. box	—@ —
Peaches, fancy wrapped, ℔ box	60@ 75
Peaches, Freestone, ℔ ton	10 00@20 00
Peaches, good to choice, ℔ box	35@ 60
Peaches, Cling, per ton	25 00@35 00
Pears, Bartlett, ℔ ton	— —@— —
Pears, Bartlett, No. 1, per box	75@ 1 00
Pears, Bartlett, No. 2, per box	50@ 75
Pears, other kinds, ℔ box	20@ 60
Plums, choice, large, ℔ box	50@ 75
Plums, other kinds, lb box	25@ 50
Plums, ℔ crate	40@ 85
Pomegranates, ℔ box	50@ 75
Quinces, ℔ box	40@ 65
Nutmeg melons, ℔ box	35@ 60
Watermelons, per 100	3 00@ 7 00
Canteloupes, per crate	75@ 1 25

Berries.

Blackberries, ℔ chest	3 00@ 4 00
Currants, Red, ℔ chest	— —@— —
Raspberries, ℔ chest	3 50@ 5 00
Strawberries, Longworth, ℔ chest	— —@— —
Strawberries, Large, ℔ chest	2 50@ 4 00
Whortleberries, ℔ lb	8@ 10

Grapes.

Black Hamburg, ℔ box	30@ 40
Fontainebleau, Cal., per crate	35@ 50
Fontainebleau, Cal., per box	30@ 40
Isabella, ℔ box	50@ 75
Muscat, per box	30@ 40
Muscat, ℔ crate	40@ 50
Muscat, ℔ ton	14 00@17 00
Rose of Peru, ℔ box	30@ 40
Rose of Peru, ℔ crate	40@ 50
Royal Isabella, ℔ crate	1 00@ 1 25
Seedless Sultana, ℔ box	40@ 65
Tokay, ℔ crate	40@ 75
Zinfandel, ℔ ton	20 00@25 00

Dried Fruit.

The dried fruit market in the East is thus reviewed by a New York authority:

New evaporated apples are in fair supply and market rules weak and irregular. August and September-made fruit is not as good as later made stock, and holders are urging sales at every opportunity and accepting very low rates. Positively fancy, if here, would command about 6c, but about the best shown are not worth over 5¼@5½c, and great bulk of sales are from 4@5, with some poor offering much lower. Old evaporated are neglected and uncertain in value; small jobbing sales are made within ranges quoted, but for large lots almost any reasonable bid would be accepted; some very poor are offered as low as 1@3c, and comparatively light stock shows quality to exceed 4c per lb. The few old sun-dried apples left are held about the same, but receive little attention. Few spot chops or cores and skins here and choice would command full prices promptly. Old peaches held steady. Cherries have very little attention and quotations nominal. Raspberries have had a more active demand and rule very firm, with some stock held at 15c. Huckleberries dull and 7c would be difficult to exceed were holders inclined to sell, but stock generally held at 8c. Blackberries slow and weak with 4c now top for for prime. California fruit firm.

The local dried fruit market has developed additional firmness since last review, with an active inquiry, both on foreign and Eastern account. There have been free shipments outward, both by land and sea, and prospects favorable for the demand continuing active for the more desirable sorts.

The kinds most in request are apricots, halved Bartlett pears of select quality, and choice to fancy peaches. Stocks of all the above descriptions are rapidly being reduced to very slim proportions. Moorpark apricots are now in such light supply as to be hardly quotable in a regular way.

Prunes have been tending in favor of sellers, especially for spot supplies, which are quite light, and for forward deliveries of the large sizes, which are difficult to obtain in wholesale quantity. For new 40 to 50's the market is quotable at 5 cents, with more asked.

Apples of this season's curing are in fair request at the prevailing quotations, and more could be accommodated with custom than are at present offerings in this center.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	6½@ 7½
Apricots, Royal, fancy	8 @ 9
Apricots, Moorpark	11 @13
Apples, in boxes	5 @ 5½
Nectarines, White	4½@ 5
Nectarines, Red	3½@ 4
Peaches, unpeeled, prime to choice	3 @ 4
Peaches, unpeeled, choice to fancy	4 @ 6
Peaches, peeled, in boxes	9 @11
Pears, peeled and sliced	4 @ —
Pears, unpeeled Bartletts, halved, fancy	6 @ —
Pears, halved, unpeeled Bartletts	4 @ 5
Pears, quartered, unpeeled Bartletts	3 @ 4
Plums, pitted	3½@ 5
Prunes, in sacks, 4 sizes	3 @ 3¼
Prunes, in sacks, small sizes	1¾@ 2¼

COMMON SUN-DRIED.

Apricots, ordinary	5½@ 6½
Apples, sliced	2½@ 3
Apples, quartered	2½@ 3
Figs, Black	2 @ 2½
Figs, White	3 @ 4
Peaches, unpeeled	2½@ 3½
Plums, unpitted	1 @ 1½

Raisins.

Market has been ruling easier, with weather more favorable for curing. Asking rates were marked down ¼c on 3-crown and 2-crown loose Muscatel, the 3-crown being now quoted at 3c and the 2-crown at 2½c, Fresno delivery. On box raisins there has also been some shading of rates in favor of buyers. For 4-crown loose Muscatel prices remain as before, the yield of this grade being comparatively light.

FIRST HALF OCTOBER SHIPMENTS.

Imperial Clusters, per box	2 50 @ —
Dehesa Clusters, per box	1 75@ 2 25
Fancy Clusters, per box	1 40@ 1 50
Boxes, London layers, 20-lb box	1 05@ 1 10

(Usual advance for fractions.)

Loose Muscatel, 4-crown, ℔ lb	4 @4½
Loose Muscatel, 3-crown	3 @ —
Loose Muscatel, 2-crown	2½@ —
Sultanas	4 @ —
Seedless Muscatel	2½@3½
Dried Grapes	2½@3

Citrus Fruit.

Lemon market is tolerably well stocked for this late date in the season. Prices remain at much the same low range as last quoted, with market for common qualities lacking in firmness. Choice to select of the desirable sizes are commanding fairly good figures, quotations for the same continuing unchanged.

Oranges—Wash. Navels, ℔ box	— —@— —
Cal. Mediterranean Sweet	— —@— —
Cal. Seedlings	— —@— —
Cal. Valencias	— —@— —
Lemons—Cal., select, ℔ box	3 00@ 3 50
Cal., good to choice	1 50@ 2 50
Cal., common to good	75@ 1 50
Limes—Mexican, ℔ box	5 00@ 5 50
Cal., small box	1 00@ 1 25

Nuts.

New crop almonds are beginning to be offered freely, and some of the samples exhibited this week were of very good quality. Market presents a fairly healthy tone, with good prospects of the entire crop being absorbed before the season ends. White walnuts are arriving in moderate quantity, and coming on a bare market, are not lacking for custom. Market is moderately firm at the quotations, more especially is this the case for choice soft and paper shell.

California Almonds, paper shell	8½@ 9½
California Almonds, soft shell	7 @ 7½
California Almonds, standard	6 @ 6½
California Almonds, hard shell	4½@ 5
Walnuts White, paper shell	9 @10
Walnuts White, soft shell	8 @ 8½
Walnuts White, Cal., hard shell	6½@ 7
Peanuts, Cal., fair to prime	4 @ 5
Peanuts, Eastern hand-picked	5 @ 6
Pine Nuts	12½@15

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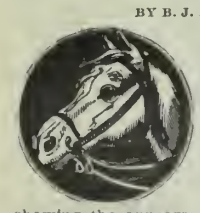

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8	18	3¼	Steel Skein...	2 in.	4000 lbs.
2	18	3¼	"	2½ in.	4000 lbs.
8	19	3½	"	2¼ in.	5000 lbs.
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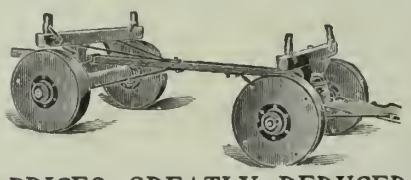

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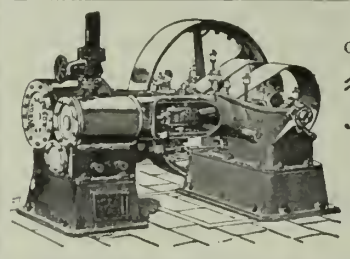

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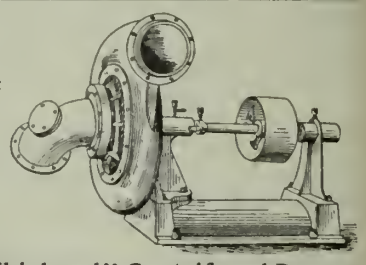

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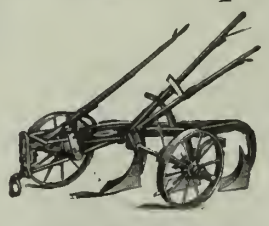

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Vol. LII. No. 15. SAN FRANCISCO, SATURDAY, OCTOBER 10, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.

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Interior Scenes in San Luis Obispo.

We have given town scenes and picturesque shore scenery in San Luis Obispo and now we turn to the interior. The views exhibit some of the chief inland features of the country especially of valleys of considerable area and wide stretches of productive soil. The smaller view is of the Huasna valley lying easterly from Arroyo Grande—a valley with a very interesting history, for it was formerly a favorite resort of the Tulare Indians and was named Huasna in honor of a popular daughter of a Tulare chief. It was granted to Captain Sparks, who came to California in 1833 and did many deeds of bravery for which this land was given to him in 1840 by Governor Micheltorena. A portion of it was given to his daughter Flora who married Captain Harloe, and for the last twenty years has been their home. Huasna valley, so far at least as the Harloe portion of it goes, has never been sold, but has gone along by gift or grant ever since the Indians were dispossessed of it. It is a beautiful, park-like country, with sloping hills covered with magnificant oak trees.

The larger scene portrays a more broken country and still like the other in its park-like appearance. In this case rather more culture intrudes and the old oaks are being displaced by orchard and vineyard plantations. It is a very beautiful country and one which, during the recent years of development, has had its share of popularity and improvement.

HUASNA VALLEY, SAN LUIS OBISPO COUNTY.

SCENE IN OAK PARK IN SAN LUIS OBISPO COUNTY.

Cream of Tartar Making.

Enterprises to extract value from the wastes of the wineries are progressing. The *Tribune* says that the cream of tartar factory at Healdsburg has been thoroughly overhauled and renovated and many facilities added. With the recent addition of the new pomace building at least 7500 tons can be sheltered. With this quantity the cream of tartar factory can be kept running to its highest limits day and night until about the middle of next spring.

The works will begin operations next month and it is expected that the output during the approaching season will exceed that of any year in the past, notwithstanding that the market value of cream of tartar is low and the stock of last year is yet unsold. Mr. de Latour has at this time something like $10,000 worth of refined cream of tartar retained in San Francisco, and it will be held there until the market develops more firmness. Now the price is extremely low, but Mr. de Latour has confidence that a revival is not far distant, and he is going to make up all to the full extent of the capability of the factory, having so much confidence that the business will take a turn for the better and continue to improve.

Dairy Laws Proposed.

William Vanderbilt, secretary of the California Dairy Bureau, has on hand certain proposed enactments and amendments which he believes will improve the dairy legislation of this State. He urges the establishment of a series of brands for cheese factories, which, being registered with the State Bureau, would enable the detection of the sale of any improper product. This, he said, would result in the making of a reputation for California cheese throughout the entire country.

The following amendment to the existing dairy laws, as suggested by Mr. Vanderbilt, was adopted by the recent convention and will be presented to the Legislature by the Dairy Bureau, making the section read:

> Provided that nothing in the above section shall be construed to prohibit the manufacture or sale of oleomargarine or any substances destined to be used as a substitute for butter and cheese in a separate and distinct form, and in such a manner as will advise the purchaser or consumer of the real character, free from coloration or ingredient that may cause it to look like genuine butter.

This ought to give the substitute people a fair show to give their product a distinctive appearance and sell it on its merits, and not under the guise of butter.

BEET SUGAR is constantly gaining in public interest. It is now announced that a rich mine owner of Montana is about to erect an extensive beet sugar plant at Anaheim, Cal. It will be one of the largest plants of the kind in the world. It will cost more than $400,000, and will grind 700 tons of beets daily, making 15,000 tons of sugar in the four months of the season. He is also considering the erection of a sugar factory in Montana, and supplying the State with home sugar, which would take a plant of about 100 tons daily capacity.

SANTA ANA LETTER: "As evidence that this has been an unusually dry year in the Santa Ana valley, one need but examine the natural course of the old Newport slough that extends from the head of Newport bay, north of Fairview, to the course of the Santa Ana river. The slough has been dry for several months past in places that are seldom free from water in any month of the year. In some places, near the edge of the peat land, the farmers are digging out the peat in the bottom of the slough and drying it for fuel."

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ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, October 10, 1896.

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The Week.

The following data for the week ending 5 A. M. Wednesday, Oct. 7, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	...	.82	3.27	2.05	62	46
Red Bluff	....	1.17	1.92	.99	94	60
Sacramento	....	.52	1.28	.58	*	58
San Francisco	....	.65	.78	.54	85	49
Fresno	....	.26	.07	.40	94	58
San Luis Obispo	....	.24	T	*	98	46
Los Angeles	....	.07	T	.32	82	50
San Diego	....	.06	.01	.35	72	58
Yuma	....	.50	.02	70	102	60

* Indicates no record.

Santa Clara County Fair.

A county fair, conceived in something of the old-time spirit and carried out with great success in all its features, was the leading event last week in San Jose. There was no horse racing, and this fact served to eliminate an element which has become a characteristic and sometimes an offensive feature of fairs in general. The display of products, especially in the line of fruits and wines, was wonderfully complete and beautiful and could not, perhaps, be surpassed anywhere under the sun. A feature of especial interest was the display of machinery used in the cultivation of orchards, the gathering of crops and in the drying and preserving of fruits. Santa Clara county has been the center of invention in these lines, having within the past ten years produced devices almost without number, including many which have reduced labor in the care of orchards and their productions by at least 50 per cent. The fair attracted a large attendance and was in every respect a delightful occasion, as well as a magnificent demonstration of the conditions and resources of Santa Clara county.

Heavy Sale of Walnuts.

A dispatch from Santa Barbara, dated Tuesday of this week, reports the sale to Chicago buyers of all the walnuts controlled by the county Walnut Growers' Association. Says the dispatch:

Thomas Hodge, representing Hills Bros. of San Francisco, has been here during the past week on his annual trip for the purpose of purchasing a supply of English walnuts for their coast customers. He has made regular trips here of this kind for the last six years, and last year, when he came and found prices ranging in the neighborhood of 7 cents, he immediately raised to 8 cents and secured what he wanted without delay. Upon his arrival here this season he found the local Walnut Growers' Association in possession of nearly one-half the entire crop of the county and holding out for stiff prices. The bulk of the remainder is in Colonel Heath's hands, and he always markets in the East. Mr. Hodge has labored with the association during the week, trying to convince them that the demand is limited and that they must lower their figures. He secured a number of small lots from outsiders, amounting in all to about seven carloads, and wants as many more. He informed a correspondent to-night that the association effected a sale this afternoon of the entire crop on their hands to a Chicago firm, the exact price not being stated, but it is thought to be 6 cents for hardshells and $7\frac{3}{4}$ cents for soft-shells f. o. b. at Santa Barbara.

The Tendency Is Upward.

When the producer is prosperous, business is good and vice versa. While most products of the soil are still on a low plane of values, the tendency in many instances is upward, and already considerable improvement has been experienced, notably in cereals and dried fruits. Prices for some other produce are also on the mend. For details the reader is referred to the department containing the market review for the week.

The Vintage in Sonoma County.

It is estimated that the vineyard product for the two townships of Santa Rosa and Sonoma, for the present season will be 2,000,000 gallons and for the whole of Sonoma county about 5,000,000 gallons. The Santa Rosa *Democrat* gives the following estimates of the product of various wineries. The list makes no pretence of being complete but it is believed that as far as it gives the figures are approximately correct:

C. F. Juilliard, Sebastopol	300,000
Schermer, Sebastopol	30,000
Surrhyne, Sebastopol	50,000
Orr	20,000
Mathe	30,000
Korbel, Lower Russian river	100,000
Alton	30,000
Bailiff, Laguna	25,000
Fulton Winery	50,000
J. O. B. Gunn, Windsor	50,000
Hotchkiss & Miller, Windsor	225,000
J. Z. Cunningham, Windsor	15,000
I. Fredson	30,000
F. Schmidt	50,000
McCoy & Hotchkiss	50,000
Simi, Healdsburg	300,000
Paxton, Healdsburg	75,000
J. Gobhi	50,000
Finlayson	25,000
P. Holtz	5,000
Scatena	50,000
Lorenzino	25,000
Paternack	30,000
Hotchkiss & Miller, Trenton	125,000
Stammer & Feldtmayer	50,000
Freze & Rand	20,000
Italian-Swiss Colony	50,000
Moulton Hill Vineyard	600,000
Cloverdale Wine Co.	100,000

Gleanings.

LAST week San Jose shipped to Boston and New Orleans 378,550 pounds of beans.

THE daily shipments of Bellflower apples from Pajaro valley average three carloads.

MRS. F. K. MERRITT has just exhibited in Cloverdale specimens of Sicily lemons 9, $8\frac{1}{2}$, 8 and $7\frac{1}{4}$ inches in circumference. They grew near Cloverdale.

THE Napa Woolen Mills have started up on half time. By using only part of the machinery, only about one-quarter of the normal output will be turned out.

ORANGE *News*: "Walnut picking is now the order of the day in this locality. Unless a very warm spell comes to open the husks or a wind to throw the nuts from the trees, the work will extend over an unusual length of time. The crop is large. There will be a larger percentage than usual of small nuts, but the crop of medium and large will still be beyond an average yield."

WHITE, RYAN & CO. of Cape Town, Africa, have recently ordered two goose-neck fruit wagons from the San Jose Agricultural Works, this State. The sale came about through an advertisement originally published in the PACIFIC RURAL PRESS, its statement of merit of the San Jose wagons being confirmed by those of whom the African buyers made personal inquiry. Accompanying the order were inquiries concerning the new disk plow and other kinds of orchard machinery invented and manufactured in the Santa Clara valley.

AT Hatch & Rock's orchard, says a Biggs' letter to the Willows *Journal*, the only fuel used in a giant traction engine which has been used this season in delivering fruit to Hickmott & Nelson's cannery, is the cracked pits of peaches. This company has paid 2 cents per pound for all peaches delivered at the cannery this season, also returning to the grower the pits, parings, etc. These are fed to the hogs, which crack the pits and eat the kernel. The fragments of the pits are then gathered and used for fuel, for which purpose, it is said, they are superior to coal. In San Jose, also, peach pits are converted to fuel uses, steam being made by means of them in the canneries, near which great mounds of them can be seen.

SPOKANE *Review*: One of the most remarkable yields of wheat recorded in the Northwest was grown on the Abbott farm this season by A. L. and L. A. Comstocks, and threshed last Saturday. They had a total of thirty-seven acres of wheat, from which they threshed 3096 bushels, an average of more than eighty-three bushels to the acre. One field of this, measuring twenty acres in area, yielded 2236 bushels, or an average of more than 111 bushels per acre. The other field would have turned out just as well but a mixture of wild oats with the wheat. The grain grew so heavily that considerable of it was prostrated by the rainstorm on the 1st of August, and consequently it was not all saved. The land upon which it grew is part of the Robert Hill donation claim, and has been cultivated continuously without fertilization since 1852.

ANAHEIM *Gazette*: "The beet harvest is drawing to a close and the middle of October will see the crop out, with the exception of a few days' hauling. Thirteen thousand tons have been shipped to Chino so far this season, and on the whole the season, for the unfavorable year, has been successful. More money could have been made by the beet growers, it is true, but in view of the fact that the year has been in nearly all lines of agriculture probably the most unfavorable in our history, the growers are disposed to look upon the bright side of things. The season has emphasized the fact that we are the premier beet-raising country of the earth. Our beets have gone above those raised at Chino both in sugar and purity, so much so that many of the Chino farmers have pulled up stakes in that quarter and will raise beets next year for the Alamitos factory."

From an Independent Standpoint.

Theoretically, the municipal politics of San Francisco would appear to be a matter of purely local concern, but it is found in practice to have wide relationships—to be, in truth, a very large factor in State affairs. The population of California is 1,208,130, and that of San Francisco is 298,997. In round terms, the city contains one-fourth of all the people living in the State; and this implies a proportionate strength in all bodies, political and other, in which numbers stand as the basis of representation. Thus, one-fourth of the membership in the State Legislature comes from San Francisco; and in party conventions the representation of the city is approximately the same. Under this condition the power of San Francisco in State affairs would be very large under any system of politics; and under the circumstances of political practice in California, it is easily predominant. Into every party convention and into every Legislature the city delegation goes thoroughly organized under skillful leadership; and it scarcely needs to be told how successful its operations are. That no man can be nominated for a State office by either the Democrats or the Republicans over the protest of San Francisco has been demonstrated again and again; that no measure can be put through the Legislature in opposition to the city representation is a fact equally well demonstrated. It is the experience of every man who has taken part in recent State conventions or who has attempted the work of legislation, that the only way of success is through a good understanding with the powers which dominate the San Francisco delegation. If a member undertakes a course of independence he finds himself balked and embarrassed at every stage of his effort; and he soon learns the practical wisdom either of ceasing to attempt anything or of joining with those who have the power to help him. Unmanly and humiliating as is the last-named course, it is the one way of accomplishing anything, and many a legislator who has gone to Sacramento with high notions of independence and personal honor has found himself powerless to resist the forces brought to bear against him.

The experience of a State Senator, as related by him to the writer, illustrates the way things are done: "Some years ago in my county," he said, "there was very urgent need of an enactment confirming certain water rights and it seemed as if there ought to be no difficulty about it since no opposing interests were involved. I presented a bill in my first session and it got readily enough through the earlier stages but when it came to the point of enactment there was always some petty obstacle in the way. In the end adjournment was reached before I could get action on my bill. There was great disappointment in my county. My political opponents intimated that I had been negligent and even my friends could not seem to understand why I had failed; and to confess the truth I did not understand it myself. Well, at the next session I again introduced the bill and this time from the very start I had trouble. I worked for it faithfully but at every stage of its progress there were unexpected and unreasonable delays. Finally it began to dawn upon me that the obstructions came from men who were either from San Francisco or in alliance with the San Francisco gang. At an especially disappointing moment I remarked to a member at my side that I believed the 'Boss'—at that time it was Chris. Buckley—was preventing action on my bill and that I could not understand why. His answer was that I had better have a talk with him. Upon this suggestion I went to the lobby where Buckley was sitting and said to him: 'What possible objection can you have to my bill, that your men stand persistently in its way?' He showed neither surprise nor anger and made no attempt to mince matters. 'I care nothing at all about your bill,' he said, 'but I understood that you are against us in the ——— matter,' naming a certain measure which I knew to be wrong and which I had publicly criticized. 'If you want your bill to go through you had better get on the other side of my measure.' What was I to do? Should I allow a great interest in my county to suffer, should I allow my constituents and neighbors to be injured, should I go home in discredit, or should I bargain with this

insolent rascal? It all came over me in an instant and I saw no way but to yield. I told Buckley that I was publicly committed and could not support his bill but that if he would allow my bill to go through I would cease opposition to him. He accepted and in five days my bill had gone its course without trouble and had been signed by the Governor. Now, did I do right or wrong?"

Since we are considering matters of fact, rather than of morals, it is not necessary to answer the query with which this statement closes. It is quite sufficient for our purpose to have shown the way in which "the gang" from San Francisco may interfere in matters which in no way concern the city; how it may silence the opposition of even well-meaning men to measures which they know to be wrong—how, in short, a vicious city representation in the Legislature may balk the operations of common justice and corrupt the political life of the State. It is this which lifts the politics of San Francisco above a mere local interest and makes it properly a matter of concern to every citizen of California.

Since the conditions of San Francisco politics effect the political life of the whole State, there ought to be a general interest and sympathy with the efforts now being made to reform the municipal system. The project is to overthrow the old and outworn city charter and to replace it with a new one better adapted to the wants of the time and to modern notions of city government. The old charter divides the larger affairs of municipal administration into departments and gives to each a practically independent jurisdiction. Thus, the Police Department is under a Commission appointed by the Governor and without responsibility of any kind to the Mayor or to any other municipal authority. The Park Commission is also an independent body. The Fire Board and the School Board are also a law unto themselves. No matter how these departments may be mismanaged, there is no way by which they may be gotten at by the citizens of San Francisco. The modern idea is just the reverse of this system of divided authority. It proposes to concentrate the powers of municipal government in such a way as to make the Mayor largely responsible. He is to have the power to appoint and to remove the various boards—in other words, he is to be the general manager of city affairs, with full power to act vigorously and promptly. The theory is that the majority of the people want good government and that they will vote to establish it if the chance is afforded them. They cannot, in the nature of things, discriminate in the selection of a great number of officials; but they can, it is assumed, easily concentrate upon a good man for Mayor, and if a good Mayor means a good organization of the city administrative interests, there will be a fair chance of reform. This is the purpose of the new charter to be voted for in November. It will, if accepted, destroy the system under which San Francisco has been so long boss ridden, which has overtaxed the city and wasted its resources and through which the political and legislative life of the State has been shamefully corrupted. It is the hope of thoughtful and honest men that under the proposed charter these evils may be overborne and that better conditions may hereafter prevail. The vote for and against this new charter will be taken coincidentally with the State and National election next month.

While the hope is general among better-minded people that the new charter will be adopted it is by no means assured. There is a large element which prefers things as they are. The bosses and their followers including the great army of tax-eaters are well pleased under the present system; and besides their direct strength, they control through the saloon element and by means of mercenary organizations a vast number of votes. Another powerful support of the vicious and corrupt system of politics comes from a class of men who hold their heads very high in business and society; namely; the owners and managers of large corporate interests. The gas companies make large contracts with the city for lighting; the water company not only sells water to the city at rates to be fixed by the board of supervisors, but is a constant applicant for privileges in the matter of laying its water pipes; under the present law the power to regulate charges reposes in the board of supervisors. There are the street-car companies who are continually asking for the use of city streets for their purposes of business, and there are a thousand other large business interests having constant dealings with the city and whose profits are dependent upon the complacence of the city government. Again, there are transportation interests of various kinds which have large dealings with the city and who would rather have what they want by corruptly paying for it than to take what they can get under an honest system. The influence of all this crowd will naturally be given to maintain the present conditions.

The hope for better things rests, therefore, upon the people of honest purpose and of moderate means as against the combined powers of the bribe-takers and the bribe-givers. The vote for and against the charter will be a fair measure of the civic morality of San Francisco.

Pith of the Week's News.

The Georgia State election, on Tuesday of this week, will give the Democrats a heavy majority, as usual.

A locomotive plant is to be established at Novgorod, in Russian territory, on the Pacific ocean, just north of the Chinese boundary.

A lone bandit robbed the Sonora and Oakdale stage on the 6th inst. The mail and express pouches were taken, but the booty is believed to have been trifling.

Seven persons were killed in a railroad accident near Osage City, Kansas, on the 4th inst. The occasion was made more terrible by the self-murder of one of the terrified passengers.

President Cleveland's summer vacation is at an end, he having just returned from his home on Buzzard's bay to Washington. His family will spend some further time visiting friends in New England.

Upon the occasion of a recent Republican demonstration at Lincoln, Nebraska, Mrs. Bryan, wife of the Presidential candidate, displayed over her door a large portrait of William McKinley tastefully draped in the national colors.

Ex-President Harrison has gone on a speech-making tour in the interest of McKinley and will appear in Indiana, Ohio, West Virginia, New York and possibly some other States. He is fully sustaining his great reputation as a speech maker.

For some days past great fires have been raging upon Echo mountain, northeast of Pasadena, and there have been fears that the mountain railroad would be destroyed. An army of men under experienced leadership has been engaged the past week in fighting the flames.

Ex-Congressman Breckenridge, of unsavory fame, is the nominee of the gold Democrats of Lexington district, Kentucky, for Congress. He will have practically the support of the Republican organization, the Republican nominee having withdrawn to leave him a clear field.

The Democrats have carried Florida, as usual, in the State election held on Tuesday of this week, but the returns as yet are too meager to indicate whether by a decreased or increased majority. The returns will afford no basis for comparison, since the Republicans had no ticket in the field.

On Monday of this week Fresno formally greeted the first regular train to arrive by the Valley Railroad. The occasion was made a general holiday, and a crowd estimated at 8000, several from the surrounding country, joined in the ceremonies. The town was brilliantly decorated; there were speeches, feasting and no end of a good time generally.

At Burlington, Iowa, on Thursday of last week, while a political demonstration was in progress, the reviewing stand broke down, precipitating Vice-President Stevenson, the Governor of Iowa and many other distinguished men to the ground. None of them suffered anything more serious than severe bruises. The Vice-President came out of it a good deal mussed as to clothes and a good deal disturbed as to nerves, but otherwise unharmed.

The quarterly report of Dunn's New York Commercial Agency, issued on the 2d inst., declares that the quarter ended with the last day of September has been a most trying one in the business field of the United States. In number, the failures were but 6½% less than in the panic quarter of 1893. In the opinion of the Dunn Agency, the advance in wheat is regarded as of the utmost importance, and it is believed to be based upon sound conditions, and not a mere effect of speculation.

It is reported that Professor Swift's observatory on Mount Lowe, in southern California, is to be dismantled, and that the professor will return to the East, taking his equipments with him. He has done a great deal of good work at Mount Lowe, and has demonstrated the advantages afforded by the clear air of southern California for astronomical observation; but he finds absolutely nothing in the way of financial support, and will return to a country where the business of science commands a higher monetary reward.

It has been a week of very hard fighting in Cuba, and the balance of advantage has rather been with the Spaniards as against the patriots. Maceo's lines were driven back at two important points by the Spaniards under Weyler, and the site recently occupied by the main encampment of the patriot army is now in the hands of their enemies. Weyler is attempting to force the fighting, incited no doubt by criticism of his conduct of the war, now very general in Spain. There is indeed a movement on foot to restore General Campos to the command of the forces in Cuba.

The conditions of the Presidential campaign as to candidates are at last pretty well settled. After a long delay, Mr. Bryan has formally accepted the Populist nomination; but in doing so he takes care to explain that he stands firmly on his own platform as adopted at Chicago and makes no concessions to the platform of the Populist party at St. Louis. The one principle which he mentions in his letter of acceptance is that of finance, upon which he declares his hearty accord with the Populist position; but on no other plank of the St. Louis platform does he commit himself in any way. After a delay of three months, Mr. Sewall on the 6th inst. formally accepted the Chicago nomination for the Vice-Presidency, his action setting at rest all notions as to his purpose of withdrawing. There has been a good deal of talk during the week to the effect that Mr. Watson, Populist nominee for Vice-President, would take an early occasion to withdraw; but it would appear from his recent utterances that he has no serious intention of doing so. Only last week he said he would lay his neck on the block rather than withdraw from the Populist ticket to "make room for a bond holder, a banker and a plutocrat." This remark gives a tolerably clear notion of Mr. Watson's estimate of Mr. Sewall.

In the latter part of last week a storm of unusual violence visited the whole Atlantic coast region, its center of greatest severity being in Florida and in the islands immediately off the Florida coast. The small city of Cedar Keys was almost wiped off the face of the earth, and the damage to houses and trees on the Florida peninsula was something unheard of. The storm raged with diminished force as it proceeded northward, but there was enough of it left to do a good deal of damage as far north as New England. In Baltimore and New York several houses were blown down. An incident of the storm was a trifling damage done to the White House at Washington.

Dried Fruit Export Trade.

General Conditions Affecting It Discussed by New York Trade Experts.

(New York *Journal of Commerce*, Sept. 23rd.)

A move of considerable interest to members of the dried fruit trade of this city has just been taken by the Southern Pacific Company in making through rates from California points to Europe on shipments of dried fruit. This is the first time that through bills of lading on these goods have been issued by the Southern Pacific Company. The present tariffs of the company are effective from the principal shipping points in California to leading European markets, the shipments to go via New Orleans and New York.

L. J. Spence, of the Southern Pacific Company's freight department, in discussing the matter yesterday, said: "This is a new policy on the part of our company. The idea is not so much to meet competition as to stimulate business. We consider the European market for dried fruits a promising one, and think that by issuing through bills of lading the trade can be extended. We have not received copies of the new tariffs at this office, but I presume that the through rate will be less than the present combined rail and ocean rates."

The action of the Southern Pacific is of interest to local dried fruit merchants, because this export trade has hitherto been handled mainly by New York houses, some of which have sent representatives to European markets for the purpose of building up their trade. Thus far, it is stated, there has been but little export business done direct from California. Some through shipments were made last year, but it is not known that any advantage in the way of rates was obtained. Owing, however, to the lower rates which it is expected will now be afforded on direct through shipments, this export trade is likely, it is urged by several local dealers, to be in a large measure diverted from New York, at least, temporarily. The business will be transferred, in a measure, it is claimed, from the New York dealer to brokers in Hamburg, Bremen and other European cities. It is the opinion of some local merchants, however, that this diversion of trade from New York will not be a permanent one. The history of the dried fruit trade, it is said, has shown that the business cannot be handled satisfactorily to both the shipper and the purchaser under the system of through shipments. Other exporters, however, hold opposite views.

Several local dried fruit merchants were conversed with yesterday in regard to the matter. John M. Chapman, when questioned, said: "The movement has undoubtedly been influenced by California shippers so as to facilitate through shipments, as they have hitherto found it difficult to make direct sales successfully and their European customers have found it difficult to make purchases on account of the uncertainty in freight rates. The export business in dried fruits has been built up by New York houses, and has now assumed some proportions. The San Francisco shippers have since come in and have shipped some goods on through bills of lading at a lower rate. The movement is in the natural course of trade and cannot be prevented. It will work some injury to the trade here in New York, but I think that this will be only temporary. The California shippers do not understand the business as the New York houses do, and the result will be that undesirable fruit will be shipped. There were many rejections by European buyers last year simply on account of ignorance in regard to the qualities desired on the other side. On the other hand, goods sold by leading New York merchants are examined here before shipment, and are not forwarded unless suitable for the foreign markets. While the consumption of California dried fruits in Europe will increase, I think that the export trade will come back to New York."

A representative of U. H. Dudley & Co. said: "The diversion of trade on account of low through rates will not be permanent, as the California shippers do not understand the demand of the foreign markets and cannot put up the goods in so satisfactory a manner as New York houses. Then again, European buyers are small purchasers, seldom buying in carload lots. The New York merchant buys in large quantities and then reships to European markets in amounts to suit his customers. The advantage in freight rates which he gets in handling

car lots will offset the low rates on direct through shipments of small lots. Then the New York merchant can ship by various steamship lines according to the best rates offered, and is not confined to one route, as through shippers would be. The foreign buyer cannot handle as large quantities as the New York merchant, as he has not the outlet for his goods that we have here. The New York dealer does not depend upon the export trade, but can supply it in conjunction with the home market."

A representative of C. C. Abel & Co. said: "The ability of New York exporters to hold their trade depends upon the reliability of their brands. Dried fruits are not like wheat or corn, where there are one or two staple grades, but in dried fruits there are a great variety of qualities, and some shippers brand as "fancy" qualities that are really much below that grade. It takes a long time to learn the requirements of the foreign market, and I think that the old houses who have established the reliability of their brands can, in the long run, hold their trade even in the face of competition favored by lower rates, although for a time this competition may be felt."

Another exporter said: "The question is mainly one of rates. If the through rate is made lower than the combined rail and ocean rate then the trade will go to California. It is on just the same principle as the diversion of the flour business from New York. In former years New York had a very large export business in flour, while practically none is done now by local houses, because the millers in the Northwest get a through rate, which is lower than the combined rate from the mills to New York and the ocean rate from New York."

A representative of the firm of E. Myers & Co., who do an extensive export business in dried fruits, said: "We have already felt the effect of direct consignments, and we have recently received letters from our agents stating that they meet with competition from this source. The California shippers have had through rates, but I do not know that these rates have been lower than the combined rail and ocean rates, but I am led to believe that this has been the case. Even if the rate is no lower the through shipper saves lighterage and cartage to the foreign steamer, which the New York exporter has to pay, and this is an advantage of importance.

"As far as the question of packing the goods is concerned it will not do for us to underrate our competitors. Some of the California shippers understand packing, as we have received consignments which we exported without repacking. While it may be argued that many buyers in Europe take only small lots, this disadvantage can be met by combining several orders in one carlot.

"If the California shippers have the advantage of us in rates, I think that the export trade of New York houses will decline. The trade will not, however, be entirely taken away from New York, as this is a great money center, and when California shippers need advances they will apply for them here, which will keep a certain amount of the trade in the hands of New York exporters."

The principal item in the export trade in California dried fruits is apricots. These have been exported for several years, and the trade is increasing. There was also a large export business in California prunes last year, but this was exceptional, due to the failure of the crop in France. It is not thought that there will be a large foreign demand for prunes this year, but there will, it is said, be a heavy business in apricots.

Gunpowder Cabbage.

Mr. H. M. Stringfellow of Texas tells in his book, "The New Horticulture," how he came to realize the value and importance of potash in fertilizers, which is sketched by the *Rural New Yorker*. He was growing cabbage and melons, and using vast quantities of manure, bone, cottonseed meal and other fertilizers rich in nitrogen and phosphoric acid. After a year or two the crops failed for some reason, for which the local soil doctors could not account. Near Mr. Stringfellow's home was a powder house in which were about five tons of gunpowder which had been damaged by wet. It was proposed to throw this powder into the bay. Mr. Stringfellow remembered that gunpowder contains a large percentage of nitrate of potash. He also realized that his manuring thus far had been one-sided, in the fact that he had used a large excess of nitrogen and phosphoric acid. He got the gunpowder for the hauling, and at once spread the five tons on four acres of land, harrowed it in, and set out cabbage. The result was the biggest crop of cabbage ever known in that part of the country. That was probably the most *forcible* manuring ever known in the history of horticulture. When those five tons of powder exploded into cabbage heads weighing fifteen pounds and more, the force blew Mr. Stringfellow into a potash crank, and he has been one ever since. He says that cabbage and melons obtain more benefit from potash than any other crop that he has grown.

The Boom in Wheat.

(Stockton *Mail*, 2nd inst.)

There is a slight difference of opinion among the grain men as to the exact outlook of the wheat market. Several of them were interviewed by a *Mail* reporter this morning, with the following result:

Frank Lane—The market is strong, though there is a pause in the rise of prices. The cause for this is that the market was pressed up higher than circumstances warranted, and it is now going back to a substantial basis. The grain men went to extremes in the matter. I am of the opinion that it will not go lower, however. As to the future, the prospects for a firm market are good.

Bruce Harrison—The market is steady and strong. The price has gone up considerably in the past few days, but whether the figures are based on a substantial demand or whether it was a speculative proposition, it is hard to say. Short crops in southern Russia, Argentine and India have had something to do with it.

J. D. Peters—The market is all right, and wheat will go up higher still. I have advised people to hold their wheat and wait for higher prices. Of course, I can't tell how high it will go, but it will go higher than it is now, you mark my words.

Captain Smith—My latest advices are that the market to-day is nervous and uncertain. Besides the failure of the wheat crop of India, it is my opinion that the fact that Russia has declared itself as willing to assist. Turkey as against England has had something to do with it. I know that yesterday a ship cleared for Liverpool, but changed its destination to Calcutta.

M. P. Stein—The wheat market is somewhat nervous and unsteady just now, but the prices to-day are not what they were yesterday. The market, however, is on a substantial basis, and will probably remain so for a time, at least.

Saving Watermelon Seeds.

The Lodi *Sentinel* claims that Harrison Brannack of Lodi saves and prepares for use more watermelon seeds than any other man or firm anywhere else in the world. Says the *Sentinel:*

The gathering of the seed is not easy work. Mr. Brannack is now working in an eighty-acre field about three miles west of town. He selects the best melons, not always the largest, but the best shaped, and with a sharp instrument (something like a grain-buyer's test iron) cuts a hole in one end of the fruit. As soon as the fleshy inside has begun to decay, he cuts the melon open, scrapes out the seeds and pours them into a large can, in which they are carried to the well where they are washed. It requires careful, patient treatment to clean the seeds and dry them, and the weight of seeds gathered by hard work in a day is not large.

From ten to thirteen melons are required to furnish a pound of seed; and when it is considered that at least 20,000 are dissected yearly by Mr. Brannack in his quest for good seed, it is evident that his labors are not light. He began gathering seed about the first of the month, and will complete his labors this week. He has orders already for 1200 pounds, and ships this week 400 pounds to one customer in San Francisco.

Unlike most vegetable growths, melons do not improve rapidly in quality by careful selection. The largest melons do not furnish the best seeds, even in appearance. The early ripening fruit does not show the same characteristic the next year. The condition of the air and sky seems to affect the growth of the vines and melons more than anything else. In dry, sunshiny weather the melons thrive, while a shower of rain instead of forcing them on actually retards their growth.

The melon crop was not a paying one this year. The season was delayed by the cold weather and late rains of spring; and when the melons began to ripen, the demand was good for only a short time. However, taking one consideration with another, it is probable that the watermelon men fared about as well as any of the producers this season, except those who had fancy fruit to sell.

The Old Newspaper Squirrel Remedy.

To the Editor:—I have had unusually bad results with the squirrels lately, although I have expended more time and money than ever before upon them. I tried, amongst other things, plugging the holes with newspaper scraps, advised by Mr. Flory in the Rural of August 15th. I thought at first that success had at last come to me, but in a couple of days a few squirrels dug out, and in three or four more days all the holes, I think, were open. I am not *sure* of the last statement, but I saw sufficient holes open to make me give up my investigation in disgust.

Stockton. Richard Russell Smith.

A Peculiar English Walnut.

To the Editor:—Some time ago several numbers of the Rural had considerable to say about the English walnut. While canvassing, I found a peculiar variety near Saratoga. The walnuts were three times as large as the average nut, and there was a depression around the nut and a swelling out on each side. It seemed to be of the *Præparturiens* variety, as the tree commenced bearing at 4 years old. It is on the place of C. G. Sperry, Saratoga. F. Garrigus.

Santa Clara.

This may be a sport, or it may be that one of the extra large French varieties has found its way to Mr. Sperry's place. The description agrees with one of these. We should like to see the nut.

Expert Italian Judgment Upon California Wines.

The Royal School of Viticulture and Enology of Conegliano, Italy, has recently had under critical examination quantities of California wines supplied by the Asti colony, and has just made a report. It neither condemns nor commends this State's products en masse, but, taking up each species separately, passes judgment according to the best Italian authority. For this reason the criticism is of value, and is the more appreciated that the general expression is favorable.

The types of wine passed upon were grouped in the following categories:

White wines—Chablis, Riesling, Sauternes, Johannisberg, Sparkling Muscat and Sparkling Monte Cristo.

Red wines—Tipo, Chianti, Burgundy, Barbera, Barolo, Cabinet and Zinfandel.

Sweet wines—Sherry, Muscat, Port, Malaga, Tokay, Madera and Angelica.

A jury was selected to sample the various varieties, consisting of Prof. Michele Guinti, Mr. Saunino, Mr. Paecanoni and L. Celotti. Their verdict, as translated by Dr. de Vecchi of this city, was as follows:

Chablis—Slightly in fermentation, straw color, clear, strong bouquet, good alcoholic, flavor too fresh, acid, resembling Chablis, scanty extract, with a smell of sulphurous anidride.

Johannisberg (1889)—Slightly in fermentation, straw color, clear, bouquet less pronounced than the preceding, flavor somewhat pleasant and fresh.

Johannisberg (2)—Slightly in fermentation, of light straw color, very clear, bouquet good but not intense, with a slightly acid taste of Riesling, good body and a smell of sulphurous anidride.

Pinot Gris—Straw color, light but good perfume, pleasant flavor and fresh.

Hock—Of heavy straw color, clear, strong, but not very fine bouquet, characteristic, good, of right body and resembling the white wines of Lonigo.

Chateau Yquem—Light straw color, very clear, having strong bouquet, characteristic, sweetish taste, fresh, showing signs of sulphurous anidride, and leaving much to be desired as a superior wine of its kind.

Sauvignon—Light straw color, very clear, bouquet special and strong, flavor somewhat flat, fresh, smooth and good.

Sauternes—Straw color, very clear, characteristic and intense bouquet, pleasant flavor, very good.

Monte Cristo (sparkling)—Loud popping, foam abundant and persistent, clear, strong straw color, agreeable bouquet of a good, sparkling wine, flavor delightful, but with a little too much tannic and body.

The white wines having been thus disposed of, the red are taken up and judged as follows:

Barolo (1891)—Brilliant, intense color, with orange yellow, a little dark on the edges, strong and characteristic perfume, alcoholic, flavor tasty, is not as tannic as the original Barolo, to which it is inferior.

Barolo (1892)—Clear, color clearer than the preceding, in light fermentation, bouquet recalling the Cabernet, slightly tannic flavor, fresh, as an old wine is not very good.

Barbera—Brilliant, intense color, pretty, light and agreeable bouquet, flavor dry, light, slightly acid, is not like our Barbera.

Macaro—Brilliant, nice red ruby color, with edges of onion skin shade, intense characteristic perfume, flavor slightly tasty, fresh, cannot be classed as a superior wine.

Zinfandel—Brilliant, ruby red, specially intense bouquet, tasty flavor, of little body, slightly tannic, good enough for bottling, but not extra fine.

Generally considered, it is said that, although these California wines "have not the smoothness and that fine quality characteristic of European wines, yet they should be considered pretty good, taking into consideration the place of their production and the few years that the colony has been in existence." The white wines are declared better than the red, because better prepared and of more decided and smoother flavor. Some were found to be affected by a smell of sulphurous anidride, used in barrels to prevent germination, and others in light alcoholic fermentations, notwithstanding their various years of age. These are faults, however, which it is stated can be easily obviated.

It is acknowledged that the wines possess some very good qualities, and the suggestion is made that by better studying their respective characters, and by blending so as to make the types smoother with a more decided flavor, a finer quality of wine will be produced. A high compliment is paid to the Monte Cristo, which, except for the faults pointed out, for its delicate flavor and fine, abundant and persistent foam was held to be not inferior to any of the Italian sparkling wines. Great credit is also given to the Italians of California "for having extended the cultivation of vines on such a large scale and in such a short time, and for having established an enologic enterprise which, for its size, the good disposition of its cellars and the excellent material used, offers an example worthy of imitation even on this (the European) side of the Atlantic."

THE DAIRY.

Milk and the Bacillus Tuberculosis.

Read at the Dairy Convention by R. H. FREUND, of San Francisco, Vice-President San Francisco Microscopical Society.

The widespread prevalence of tuberculosis amongst cattle is, unfortunately, a well established fact; one of the main points discussed at this meeting of your Association is to devise some means by which, through the channels of legislation, you should be, in a certain measure, compensated for the losses sustained by the threatened condemnation and consequent destruction of your dairy stock found affected with tuberculosis, by the sanitary officers.

The Tuberculin Test.—Special importance has been attached to the tuberculin test, in conjunction with the physical examination, and there seems to be a difference of opinion as to the infallibility of the test in question. On one side we will find men who will swear as to the dead certainty of the possibility to diagnose a case of tuberculosis amongst cattle by means of the injected tuberculin; then there are others who will swear every time tuberculin is mentioned; and there is still another class of men, the conservative element—gentlemen like your honored guest, Major Alvord, Chief of the Dairy Division of the Bureau of Animal Industry—who, from the experience obtained by means of carefully conducted experiments, are honest enough to confess *that we can not as yet unqualifiedly accept the infallible action of the tuberculin, and we must content ourselves with the statement that it is a diagnostic agent of a very high power.* This view is shared by such men as Theobald Smith, Kilbourne, Schroeder of the Bureau of Animal Industry, Cooper, Curtin and others, well known to the sanitarian and the intelligent dairyman. That this conservative opinion is not shared by all, is plainly seen by the following item which appeared some time ago in one of our daily papers, in which a medical gentleman of one of our neighboring cities expressed himself *strongly* against the use of tuberculin for diagnostic purposes. Permit me to read a few lines from the mentioned article. He says:

I hardly think, however, that the tuberculin test is a sufficient warrant for the killing of poor people's cows by the public officers. I am not convinced that the tuberculin does not provide the cows that are killed with the tuberculosis that is afterwards found in their lungs or milk. To prove that this is not so, every cow suspected should have its milk examined under the microscope *before* the tuberculin is given, *and also afterward.* Under these circumstances, if no bacilli are found in the first instance, and some found in the second, the tuberculin, and not the cow, is at fault.

I do not wish to enter into a dissertation as to the logical value of the above statement, that the tuberculin injection might be the cause of subsequent tuberculosis in the animal undergoing the test, but from the nature of the tuberculin, being a sterilized glycerine extract of the active principles of the tubercle bacilli, the bacilli themselves having been removed by filtration, we may dismiss the thought as to any danger of infection arising from the tuberculin test *at once.*

Microscopic Examination of Milk.—As to the suggestion of making a microscopic examination of the milk of suspected tuberculous cows, I would like to say a few words to you, gentlemen, prefacing my remarks with the explanation that, being for a number of years a member of the San Francisco Microscopical Society, and engaged in microscopical and laboratory work, it might be of interest to you to hear something of the actual value of microscopical investigation to establish the presence or absence of the tubercle bacillus in cows' milk.

If we take into consideration that the daily consumption of milk in the United States is not far from 15,000,000 gallons, of butter about 4,000,000 pounds, besides a large quantity of cheese, and that of the animals furnishing us with the above dairy products it has been claimed 50 per cent are diseased—of the diseased one-half having tuberculosis—the importance of the attempted employment of optical means for the detection of the insidious enemy is at once apparent.

Tuberculosis Communicated by Milk.—Milk has been pronounced a source of tuberculosis and numerous experiments have been made to furnish the actual proof of the infective nature. Gerlach and Chauvean fed the milk of tuberculous cows to young animals, and, though tuberculosis was not produced in every case, the former was sufficiently successful in a number of cases to justify the conclusion that there was some specific virus in the milk of tuberculous cows which could, when ingested, produce tuberculosis of the alimentary tract or of the glands associated with it. Numerous experiments on young pigs, some of them accidental, others designed, and others on calves and hens, have been recorded, in which tuberculosis has evidently followed their being fed with tuberculous milk. At the International Medical Congress held in Copenhagen in 1884 Prof. Bang of the Royal Veterinary School in that city gave the result of a careful examination of twenty-seven cases of tubercular disease of the udder in cattle. In the milk of it he was able to demonstrate the presence of tubercle bacilli, both directly under the microscope and in the sediment obtained by means of the centrifugal separator. With this milk, or with the separated sediment, he was able to produce tuberculosis both by inoculation and by injection. Another observer—Nocard—was able to demonstrate the presence of the specific bacillus in milk in eleven cases, and Profs. McFadyean and Sams Woodhead found tubercle bacilli in the milk from six cows out of six hundred examined. Prof. Woodhead makes the following statement:

So certainly are the bacilli found in cases of tubercular disease of the udder, that certain authorities maintain that it is possible to differentiate between the simple and the tubercular inflammation of the udder in the cow *merely* by means of a microscopic examination of the milk.

In the experiments conducted by the Trustees of the Massachusetts Society for the Promotion of Agriculture, from the microscopic examination of the milk of thirty-six tuberculous cows, the bacilli were found in twelve of them, or 33⅓ per cent.

The most valuable addition concerning investigations as to the presence of tubercle bacilli in the milk of cows has been furnished by our Bureau of Animal Industry, Department of Agriculture, and I wish to call your attention, gentlemen, to the excellent contributions on this important subject as contained in Bulletin No. 3, 1893, entitled, "Some Experimental Observations on the Presence of Tubercle Bacilli in the Milk of Tuberculous Cows, When the Udder is not Visibly Diseased," by Theobald Smith and E. S. Schroeder, and to Bulletin No. 7, 1894: "Investigations Concerning Bovine Tuberculosis;" subject: "Further Experimental Observations on the Presence of Tubercle Bacilli in the Milk of Cows," by E. C. Schroeder. The experiments referred to in Bulletin No. 3, conducted at the experimental station, consisted in injecting from 5 to 7 CC. of milk centrifugalized from tuberculous cows into guinea pigs. Cover glass preparations were taken at the same time to establish the microscopical presence of tubercle bacilli in the milk. Results differ very materially in different cases. While in a number of cases the injected tuberculous milk reproduced tuberculosis in the guinea pig, in others the result was a negative one, the examination of cover glass being negative. The experiments described in Bulletin No. 7 were undertaken mainly with the object in view to obtain some information as to the probable extent to which tubercle bacilli occur in the general city milk supply, and were divided into two classes. The first deals with city milk in the condition in which it reaches the consumer and the second with milk from cows, without visible disease of the udder, in which tuberculosis was diagnosed, either through a physical examination or through the use of tuberculin injections. The centrifugalized milk was injected in guinea pigs and cover glass preparations were stained and examined for tubercle bacilli from every specimen of milk, excepting from one cow, *but the tubercle bacilli were found in no instance.*

As to the result of the injections of centrifugalized milk obtained from the city supply in guinea pigs, from nineteen different samples injected in nineteen different guinea pigs, only one pig contracted tuberculosis.

The Writer's Experience.—For the last five years I have myself examined several hundreds of samples of milk intended for nursery use—partly mixed milk and quite a number of samples of high-bred, private stock—and I must confess I have not been able to demonstrate microscopically in more than a few cases the presence of tubercle bacilli in such milk.

During yesterday's session of your convention at the discussion following Dr. P. K. Brown's excellent and exhaustive essay of "Tuberculosis in Cattle," a gentleman asked for an opinion "as to the advisability of a *local* board of health accepting the certificate of an expert microscopist, certifying to the absence of tubercle bacilli in milk offered for sale—meaning that such milk is not objectionable from the sanitary standpoint."

In answer to this question, let me point to the previously mentioned facts and figures, clearly demonstrating that *not always* where tuberculosis exists in dairy cattle are we able to demonstrate *positively* the presence or absence of tubercle bacilli microscopically—frequently not even bacteriologically. We may find, and being able to demonstrate the tubercle bacilli in a number of cases of generalized tuberculosis, of pulmonary tuberculosis, of tuberculous abscesses, of tuberculosis affecting the uterus—we will find the bacilli in advanced tuberculous ulceration of the udder, especially shortly before the *exitus lethalis*; but it is impossible, if it was feasible, to make a satisfactory and conclusive examination requiring separation and centrifugation in such a short time as would be practically required.

Other Germs in the Milk.—Besides the milk supply having become infected with the bacillus tuberculosis, there are other germs almost equally dangerous as the above organisms, such as the typhoid and diphtheria bacilli, leaving the pyogenic bacteria and the bacterium coli commum (the last one a common inhabitant of the intestinal canal) and a number of others inimical to health entirely out, which can not be demonstrated by means of the microscope alone, requiring an extended bacteriological research to demonstrate their presence in the milk.

Microscopical Tests Not Available.—From the above cited facts, obtained by experimental experience, we must necessarily come to the conclusion that, while we admit that the microscope is a most valuable adjunct in investigations concerning the presence or absence of tubercle bacilli in milk, it is by no means to be relied on as a positive proof; statements to the contrary are only misleading, leaving the possibility open that harm may be worked and deception practiced on the unsuspecting dairyman by unscrupulous persons claiming to be microscopical experts. I would like to remind you of a little experience that happened right here in this city several years ago, when an expert examined about 50 cans of condensed milk and found tubercule bacilli in almost every one of the cans. A subsequent examination conducted in one of the laboratories of the State University showed the absolute absence of the bacilli.

Sanitation.—Before bringing this short paper to a close, permit me, gentlemen, to make a friendly suggestion: If the dairyman would only isolate incipient cases of tuberculosis in his herd (after being proclaimed so by a well posted and honest veterinary surgeon), keep his stables, cans and cows in a good sanitary condition—the first by rational disinfection, the latter by cleanliness—in fact, keep himself posted as to the common laws of sanitation, much trouble and financial loss could be averted. Furthermore, the unwholesomeness of milk arises, not from change in the proportions of its principal ingredients, but from contamination with micro-organisms. The danger from such organisms has been mentioned, but this danger may be satisfactorily overcome by resorting to sterilization by heat or by Pasteurization.

Pasteurization.—Not very long ago Dr. M. Rosenau of the U. S. Marine Hospital Service, in charge of the U. S. Quarantine Station, Angel island, delivered a lecture at the Academy of Sciences, dwelling on the bacteriology of the dairy industry, and strongly advised our dairymen to pasteurize their milk, by doing so effectually destroying pathogenic and non-pathogenic organisms alike. I can only indorse what he has proposed, and there is hardly any doubt that in due time the dairymen will have to accept such procedures for their own protection. Brief exposure to a temperature of 212° F. is sufficient in most cases; but if the milk is subsequently exposed to the air at ordinary temperatures, or mixed with unboiled water, it will be again contaminated and undergo putrefactive changes. In the warmer season of the year, these changes occur with great rapidity. Since chemical experience seems to show that boiled milk is frequently an unsatisfactory food for infants, methods of fractional sterilization at lower temperatures have been suggested. These depend on the fact that, while spores and immature microbes require a rather high temperature for their destruction, fully developed organisms are more easily killed. By heating the milk, therefore, to a temperature much below the boiling point, the adult microbes are killed, while the milk solids are not unfavorably affected. The spores and immature organisms will, however, survive, and may in a few hours develop; hence the milk is again heated, and these latter developed organisms will be killed. This process is repeated several times, and finally complete sterilization is affected.

For the practical purpose of rendering milk safe as an article of food, it is not necessary to make repeated heatings. A temperature of 167° F. (75° C.) continued for fifteen minutes, followed by rapid cooling by immersing the containing vessel in cold water, will kill the adult forms of most microbes, and milk so treated will remain unaltered for one or two days and will not have suffered any appreciable loss of digestibility even for infants.

At the best, enough is known that raw milk is not a safe article of food unless collected with such precautions as will prevent the introduction of infectious matter.

The Dairymen's Convention.

The Dairymen's Convention in this city, to which reference was made in last week's RURAL, completed its sessions on Friday. It was one of the best ever held in California. Several important matters of its transactions will be presented later on in our columns as they become available. The following items of business can be given at this time:

Dairy Legislation.—The following was adopted:

Resolved, That the Legislative Committee of the California Dairy Association be instructed to prepare for presentation at the next meeting of the Legislature a bill for enactment pertaining to the supervision and inspection of dairies and dairy herds, and for the advancement of the dairy industry of California, and also securing to the consumers pure and honest dairy products. The committee is instructed to request the co-operation of health officials, associations of veterinary surgeons, milk dealers, consumers and others, for the purpose of advancing the interests of all concerned, in order that a proper and useful bill may be prepared and urged for passage.

The Work of the Year.—The third annual report of the secretary, Samuel E. Watson, stated that five meetings had been held during the year in dairy districts, by the assistance of the State Agricultural

College. Reports of these meetings and of the present convention will shortly be issued.

An exhibit had been made by the Association at the recent State Fair, with the help of the State Board of Agriculture, where a working creamery was in operation and instruction given, which had been pronounced equal to that of the two other States which had made similar exhibits for a series of years.

The secretary suggested that the Association continue this line of work, without waiting for the uncertainties of State aid, by selecting one or more instructors to be sent to any dairy or creamery willing to pay a fair sum for definite, practical instruction.

It was also advised that the Association avail itself of the opportunity offered by the Regents of the State University in connection with the series of meetings of the Farmers' Institutes, and ask that at six or more of the fifty Institutes a day be given for the consideration of dairy topics, the programmes to be made up by the Directors of the California Dairy Association.

The membership of the Association has about doubled during the year and now has representatives from all the important dairy districts of the State. The financial statement showed net resources of over $100.

Directors for the Coming Year.—Before adjournment, the following directors were elected for the ensuing year: Joseph Mailliard, Marin county; A. P. Martin, Sonoma county; F. H. Green, San Francisco; William Niles, Los Angeles county; Samuel E. Watson, Alameda county; W. P. A. Brewer, San Mateo county; W. M. LeBaron, Sonoma county; M. P. Hansen, Humboldt county; P. Tognazzini, San Luis Obispo county; John A. Cole, San Bernardino county; G. R. Sneath, San Francisco.

Major Alvord in Southern California.

The meeting of the Southern California Dairy Association in Los Angeles, called in honor of Major Henry E. Alvord, Chief of the Dairy Division of the Department of Agriculture at Washington, was a great success. The meeting was opened by President C. H. Sessions introducing Rev. A. C. Smither, who is a dairyman as well as a minister of the gospel, and the reverend gentleman gave a welcome address to the various members and their guest.

A paper on "Dairy Associations" by President Sessions followed, and Prof. A. J. Cook of Claremont read a carefully prepared paper on "Silos and Ensilage."

This in turn was followed by an excellent paper on "Dairy Feeds in Southern California," by C. W. Keyes, of Alhambra.

After the reading of these papers there were brief discussions of the subject, led by Major H. E. Alvord, who showed a wide knowledge of the dairy business.

Judging the Exhibits.—During the noon intermission Major Alvord had made careful tests of about thirty samples of butter and three samples of cheese that had been entered in competition for the prizes which had been offered, and was prepared to announce his decision on their relative merits. He said he had been asked to test the samples of butter and cheese that were spread in appetizing array on the table at the rear of the hall, and he had made a luncheon thereon. "The man who makes the best butter," said he, "is the man whose product pleases the greatest number of consumers in the market. There are widely varying tastes. Some prefer butter that is salty; some want it fresh; some prefer it highly colored, others with little or no color. The successful butter maker will make butter to suit the taste of the greatest number of consumers. It is the same with cheese. One will want it fresh and mild, while another will demand that it shall be old and sharp."

The major said that for convenience in judging butter he had adopted a system of points. Out of a possible 100 he alloted 40 to flavor, 30 to texture or grain, 15 to color, 10 to salt and 5 to style.

Scale for Judging Butter.—When the major said that, as a result of his examination of the butter samples, he found only three of which he could give a rating of 38 out of a possible 40 for flavor, he greatly excited the curiosity of his hearers. Some one in the audience made a motion, which, had it prevailed, would have effectually obscured the decision of the expert from Washington, but the greater proportion of members present insisted that, even if the report of the major was based solely on his individual opinion and taste, it should be heard. When it became apparent that the awards could not be suppressed, Major Alvord complied with the clamor, and, after warning the people that the responsibility lay upon them, and not him, he reported the rating he had decided upon for the various samples, alloting to each the number of points out of a possible 100 that he considered proper, as follows: Oak Leaf creamery, 94; Sycamore, Watson's rancho and J. D. Durfee, each 92; Star creamery and Lynwood creamery, each 91; Eureka and Norwalk creameries, each 90; Harper, of Downey, 88; Palm's creamery, 84; Oak Hill and Little Lake creameries, each 83, and Westminster creamery, 80. As some of these awards were announced, more or less applause was indulged in, indicating the sentiments of the bearers.

The Cheese Awards.—Major Alvord examined three samples of southern California cheese, and found them all of high flavor, but not of sufficiently mature age. To the cheese samples he awarded points as follows: To J. J. Harshman, 94; Nicholas Gregory, 87; Alamitos, 86. On the subject of cheese, the major said that he could see no reason why dairymen here should not produce large quantities of the best article, to not only supply the home market and cut out the demand for Eastern cheese, but even enter the markets of the East. The only criticism he could make was on the process of curing, and this, by care, could be easily remedied.

Dairy Legislation.—Major Alvord followed his report with an able address, in which he discussed at length and in a popular way many subjects of vital interest to dairymen—legislation bearing on the prevention of adulteration of milk and dairy products, detection of adulterated or low standard milk; the regulation of oleomargarine and other imitations of butter; diseases of dairy cattle and danger of infection; the proper feeding of cows and the general management of dairies—to all of which his hearers listened with profound attention, frequently manifesting their approval by applause.

On the subject of diseases of milch cows, tuberculosis in particular, the major showed evidence of deep study of the subject. He plainly showed how and why milch cows become infected, as will nearly all animals, and in turn communicate their disease to others, not only of their own, but of other species. He expressed the opinion that there is more danger of a spread of consumption from causes other than the drinking of milk and eating of butter, which met with every evidence of approval of the audience.

Following the address of the expert from Washington, George E. Platt of this city read a paper on "Dairy Cows," and W. W. Cocke of Downey read one on "Cheese Factories," both of which were listened to with attention. In future issues we expect to give our readers fuller information on the addresses of the different speakers.

The Dairy Industry.

R. A. Pearson, of the Dairy Division of the Department of Agriculture, introduces an interesting bulletin about milk with these statements: The production and distribution of milk and milk products engage the attention of no small part of our population. The use of milk is general and not limited to any class or locality; it is regarded as a necessity by almost every family, and for this reason information regarding it is important. In New York, Iowa, Pennsylvania, Wisconsin and neighboring States, dairying is carried on very extensively; in large parts of these States it is the chief occupation of the farmers. In the South and West the number of cows is rapidly increasing. This branch of agriculture is so widely practiced in the United States that this is regarded as the leading dairy country of the world. In 1889 the annual value of our dairy products was estimated to exceed $400,000,000, and the value of the milch cows in the same year was about $370,000,000.

It would be impossible to closely estimate the value of all property devoted to dairying, but it can be safely said that in gross investment it is exceeded by few other branches of industry. There are about 17,000,000 cows in this country, or one to every four inhabitants; one cow, however, furnishes the milk, butter and cheese for more than four persons, as large quantities of dairy products are exported. Although this is the greatest dairy country in the world, it does not lead in the per capita consumption of dairy products; one of the principal reasons for this is the failure of Americans to appreciate the food value of milk and its products. In some of the older European countries two or three times as much milk and cheese is consumed, per capita, as in the United States.

The average milk consumption is high in many parts of this country, and, assisted by improved methods of production and transportation, it seems to be increasing. It is estimated that the milk from 5,000,000 cows is annually consumed, as milk, in the United States, the average being about 25½ gallons per year to each person; this means an ordinary-sized tumblerful each day. Many use a much greater quantity, and, consequently, the number of those who use little or none must be very large, in order to make this average. Within recent years cream has become an important article of commerce, and in some localities condensed milk is extensively used.

The value of these foods is often much diminished or entirely lost from lack of information on the part of the purchaser—and producer and dealer as well—regarding the peculiar qualities of dairy products and the best methods of keeping and using them.

Suggestions for Milk Handling.

At the recent meeting of the Southern California Dairy Association at Compton a paper was presented by J. J. Harshman of the Compton cheese factory, an old reader of the RURAL PRESS. The paper embraced suggestions of wide application and practical value. The meeting thought so well of them that they were in the main endorsed. Mr. Harshman's paper was entitled "Suggestions to Patrons of Cheese Factories," the salient points of which are as follows:

It never pays to keep poor cows.

A good article of cheese can never be made without the co-operation of the dairymen who care for the cows and deliver good milk.

Tainted and overripe milk is always accompanied with loss in yield and quality of cheese, and consequently will affect the price of milk.

Before milking, the dirt, hair, straw, etc., should be brushed from the teats, udder and body of the cow.

After straining your milk, see that it is cooled by dipping in a cool atmosphere, stirring and exposing to the air. By so doing you will arrest the growth of bacteria by cooling the temperature of the milk.

Always leave the night's milk out of doors in the open air.

The cans should not be permitted to stand on the ground, but elevated 2 or 3 feet, with slats beneath so as to admit of a free passage of air.

Give the milk in the cans another stirring before retiring for the night.

Do not put the can covers on until ready to start for the factory.

A hoop, covered with wire screen, put over the cans at night will protect the milk from flies, cats, etc.

Set the night's milk in all the cans. In the morning this should be emptied at once and the cans thoroughly, as the acid in the whey will injure the tin.

Milk utensils should be first rinsed in cold water, washed in warm water, with soap, sal soda and pearline, then scalded and placed in the sun.

All seams in cans and pails should be soldered smoothly so they can be easily cleaned.

The milk must be delivered by 8:30 A. M.

THE POULTRY YARD.

Eastern Market Eggs.

Careful inquiry reveals the fact that here at home is the best poultry market in the world, because the United States imports over $5,000,000 worth of eggs annually. New York State consumes and sells over $90,000,000 worth of poultry and eggs. But New York does not produce ten per cent of all this. It comes to her from foreign countries and from different parts of the United States. New York State consumes about $45,000,000 worth of poultry and eggs annually. If New York, with over 5,000,000 population, consumes $45,000,000 worth of poultry and eggs annually, the United States, with 70,000,000 population, would consume over $600,000,000 worth.

The above quotation relates as astounding fact, and suggests to E. O. Roessle the idea of wrestling with the subject of market eggs in the *Country Gentleman*. Mr. Roessle deplores the fact that we do not produce eggs enough in our large country, with its 70,000,000 inhabitants, to supply their demand, but are obliged to import over $5,000,000 worth from Canada and other countries; and yet our poultry industry is the largest of all our agricultural pursuits, and is the only one the products of which we do not export.

Poor Eggs.—Under these circumstances, says Mr. Roessle, none need be afraid to embark in the chicken business; it would take quite a number of new poultry plants to produce eggs enough to overstock our market. Yet I honestly believe that the United States produces the worst quality of so-called fresh eggs in the world. Again, if we are so short of the demand for eggs, why are the prices so low?

Let us consider first the quality. The average egg bought at the store, be it in a village, town or city, except say from March 15 to August 1, is a mystery. This is during a period of 4½ months out of 12. During these 4½ months, eggs are generally fresh. During the remaining 7½ months, a fresh egg is a luxury to be enjoyed only by those who can afford to pay the price.

Grades of Eggs.—The Eastern market people grade their eggs according to a certain standard, which reads as follows:

1. New-laid, fancy or nearby. 2. State or Pennsylvania or New Jersey. 3. Northern Indiana and Ohio or Michigan; Western Northerly, choice; Western Southerly, choice. 4. Cold Storage or Refrigerator. 5. Western Culls.

This could be simplified to read fresh, stale, staler, stalest, bad. Whether it reads this way or not, this is generally the experience of the consumer.

Farmers' Eggs.—The quality of the nearby, so-called fresh, is quite a lottery, as they come from the nearby farmers or perhaps a few fanciers. Of the two the latter only is reliable. It used to be, but many

years ago, a guarantee sufficient to say, "Oh, I get all my eggs of a farmer;" but to-day the average farmer brings to market as poor an article as is produced from some wild western hen ranch. State or Pennsylvania or New Jersey, so-called because they come from the State in which quotation is made or Pennsylvania or New Jersey, are collected from farmers by men going about in wagons, and are shipped to commission men in the nearest city and generally called first grade commission eggs. Western, etc., are collected but kept longer, and known in quotation as western eggs, cold storage or refrigerator; the terms designate exactly what they are. They are gathered in the spring when eggs are plentiful and kept in cold storage until prices advance. Western culls are the lowest possible grade, and are sold by the case and not by the dozen.

The different grades of eggs are made to suit the varied demands of the consumers. Of the five kinds the first is the only one that can be relied on at all, and yet there is no guarantee of freshness about it except from the fancier. The farmer, with his small flock of from one hundred or less to two hundred, not generally more, looks upon his hens as a good thing to have around, and yet gives them less care than any stock he keeps. He gathers generally every day, sometimes longer, what eggs he can find, hidden here and there, under sheds, barns, in the long grass or wherever "biddy" has retired to do her duty of laying a fresh egg—which part she performs as is her nature, but which the farmer spoils by his shiftlessness in not gathering daily and marketing at once. I knew one of these men who, late in the summer, in cutting down his squash vines, found 201 eggs among them. He was as delighted as if he had found gold dollars, and added them to his basket for market the next day, with no possible idea whether they were fresh or rotten. It was all the same to him, "eggs were eggs." Another, who had an excellent customer in a family taking a weekly supply of ten dozen at 25 cents in summer and 50 cents in winter, when his hens moulted bought commissiou eggs, and shoved them in for the genuine article. It is needless to say he lost this trade by his dishonesty. The near-by fancier—their number is few, but let us hope it will be many—houses his flock comfortably, yards them well and feeds to produce eggs; the result is he gathers and markets daily, and can safely guarantee every egg.

Stamped Eggs. — These eggs are in constant demand by people who are willing to pay a large price for the genuine article, and have established for themselves a new brand in New York City called "stamped eggs," and are not handled by the market men, but are sold by the producer direct to the consumer. To show how much such an article is appreciated, I will state that I know where in New York City these are sold for 75 cents per dozen, 40 cents a half dozen and 7 cents each from October 1 April 1, and the rest of the year until October 1 again at 50 cents per dozen; and the demand is increasing.

State eggs are the first quality commission stock used by first-class hotels, and the second-class family. Western eggs are used by cheaper hotels, steamboats and steamships.

Refrigerator or cold-storage are generally in demand when price of others is too high, or by cheap hotels, boarding-houses, bakers, etc.

Western culls—tenements, and public institutions, supported by cities, consume most of them.

[Mr. Roessle does not say that it is these western culls which are gathered up for shipment to California, but we imagine that they are.—Ed.]

Cleaning Vermin From the Poultry House.

Samuel Cushman, from whose progressive writings on turkey growing we quoted in the Rural some time ago, has recently written for an Eastern exchange some advice for treatment of the chicken house which may be helpful to our readers:

Lice and Mites.—Although lice often crawl about the roosts, and are found in the straw of old nests, they live mostly upon the bodies of fowls, where they multiply. They lay their eggs among their feathers, to which they are attached or glued, and are incubated by the heat of the fowl's body. Red mites, however, inhabit the cracks and crevices of the hen house during the day, and attack the fowls at night. They are the bedbugs of the hen house. They lay their eggs in cracks and crevices and breed with astonishing rapidity during the hot months. At night they make their way to the fowls and suck their blood, which gives them their red color. When not filled with blood they are pale brown in color. If numerous they deplete the fowls very rapidly, and are more to be feared than lice. The fowls confined to the house at night are helpless and cannot protect themselves, and soon look pale and bloodless.

Although deprived of the chance to suck the blood of fowls, the mites can, it is said, live for months. Rough perches, rough boards, and numerous cracks and crevices about the building to which they can retire, favor their development. To exterminate them every deep crack and crevice must be reached, as well as the inside of the building.

Carbolyzed Whitewash.—Whitewashing, as ordinarily done, does not exterminate the pests, but leaves many which retreat to the deepest recesses, and emerge after the whitewash is dry. If carbolic acid be added to the whitewash it is more destructive and its effects are more lasting, but when applied often enough to be effective it accumulates in an undesirable way; neither does it penetrate the cracks as well as a thinner solution. I find nothing that gives better satisfaction than a solution of crude carbolic acid. It is the unrefined acid—a dark, tarry-looking liquid—and may be bought at a low price of any wholesale druggist. We buy it by the five-gallon can. I prepare the solution as needed by adding a half pint to a pail of water. It floats much like kerosene, and at first does not mix well. It combines with hot water better than with cold. It may be applied with any of the fountain pumps or sprayers used for washing carriages or spraying trees. Thoroughly saturate the roosts, nest boxes and every board, crack or crevice. It should be applied early in the day when the weather is pleasant, and every door and window should be opened to allow the house to dry out. After applying the carbolic mixture the boards, when dry, will glisten for some time from the minute crystals of carbolic acid left on them.

Emulsion.—An improvement might be made by preparing an emulsion of carbolic acid which will mix with water as readily as milk. The crude acid might be added to the regular kerosene emulsion as prepared by fruit growers. It is made by dissolving one-half pound of hard soap, sliced fine, in one-half gallon of boiling water, then adding to it a gallon of kerosene, after which it is agitated rapidly with a force pump, if possible, for ten minutes. If the emulsion be perfect, a creamy mass that becomes a jelly when cold is the result. For use this is diluted with ten parts of water. A gallon or half gallon of the crude acid might be added, in addition to the kerosene. Washing roosts with kerosene or supporting them in receptacles containing kerosene or carbolic acid acts as a partial barrier from the mites that roam the house. Their complete extermination should be aimed at. The frequent use of the carbolic solution is also a preventive of roup, scaly leg, chicken pox and other diseases which are a great hindrance to poultry raising.

SHEEP AND WOOL.

Wonderful Work of the Sheep Dog.

An appreciative correspondent of an eastern exchange recently visited some sheep dog trials in England and his observations will be interesting to Californians who are planning to return to the sheep business as soon as protection warrants it.

Dog Trials.—Trials of sheep dogs are held in various parts of the north of England and Scotland, and are very popular with the people. Here in the lake district the sheep interest predominates in its agriculture, and every one seems eager to see the trials. Town and country and summer visitor came, yesterday, and thronged the hillside from which the exhibition could be seen.

Some fifty pounds were offered in prizes of various amounts for dogs owned in a radius of twelve miles, a radius of twenty miles, and for all comers. For the first there were eight entries, for the second nineteen, and for the third twenty-one. Prizes were also offered for the handsomest Collies of different ages.

In Westmoreland.—The trials were held upon the side of a great hill, which was rough and rocky, but could be distinctly seen in every part from the side of another hill across a little intervale. Upon this hillside, flags were placed to indicate what each dog was required to do. Near the center of some hundred acres the man stood with his dog. Near the south end was a pen into which three sheep were put. Up the hill a little toward the north was a flag. Further north and higher up were two flags about fifty yards apart. North of these and somewhat lower was a flag, and below another. At the lower side of the hill and nearly opposite the upper pair of flages was another piar, but these were only fifty feet apart. Further south and completing a rough elipse of some half mile around was a hurdle pen, seven feet square. The task required was to start the dog at a signal when the three sheep were turned out of the first peu. He must then drive them around outside the single flags and between the double ones to the last pen into which he and the man were to drive the sheep and close the gate. Until this pen was reached, the man remained at his original position from which he directed the dog by word, by whistle and by gesture.

On Strange Ground.—It must be borne in mind that dogs and sheep were alike strangers to the ground. And it must be remembered that these Herdwicks can run like deer and during centuries of occupation of these treeless and pathless fells, where men are so readily lost, they have developed a wonderful geographical instinct; and when a sheep gets a notion that its home is in any particular direction, he bolts for it with resistless determination. There were many instances of this yesterday. The dog must keep the sheep's attention constantly, must keep the three together, have them moving steadily in the desired direction with either flank so guarded as promptly to stop a movement thither. It will at once be understood that the double flags are very difficult and the final pen the severest trial of all. There is another special difficulty in thus driving Herdwicks. They have a singular habit of going alone and not in bunches like most other sheep. They feed thus over the fells. I saw them scattered singly to-day all over the sides and top of Helvellyn, as one sees them everywhere in the region. This gives them a decided indifference to being with others and leads each of the three to disregard the presence of the others, and so he runs away from them on his own hook.

Wonderful Feats.—Now I will request the reader, before going further, to ask himself how long it would take any dog to take these three sheep around this course, which neither he nor they ever saw before. Well, such a feat has been done in six minutes and thirty-seven seconds. I yesterday saw Jack, a black-and-tan dog, belonging to J. Newby, Aulthurstside, Broughton-in-Furness, do it in seven minutes and forty-four seconds, and Trip, a brown bitch belonging to Wm. Dixon Shaw, Fell End, Ravenstonedale, do it in seven minutes and twenty-eight seconds. One of the most interesting exhibitions of the day was made by Mr. Shaw's twelve-months-old bitch Pep, who accomplished her task in beautiful style in nine minutes and twenty-six seconds. The time limit was ten minutes, and when this expired the dog was called off where ever he might be. Of the dogs competing, more than one-half failed from one cause or another.

There was a marked difference in the working of the dogs, according as they had been used for driving or for hurdling. The latter were always desirous of bringing the sheep to the shepherd. And there was a very great difference in the work of the men. Some directed their dogs by words, some alone by a whistle, and others chiefly by the waying of the hand or the movements of the body. One shepherd "whistled like a thrush," and his dog did beautiful work.

Among the printed regulations I noticed these: "Any dog that injures a sheep will be disqualified, and the owner of such dog will be liable for the damage;" and "No person will be allowed with the dog competing, except the man working it, and he will be placed where the judges direct."

Dog Yarns.—Among such a gathering of sheep farmers, one hears many interesting things. Like such men everywhere, they boasted of the wonderful dogs *they had at home.* One Yorkshire man said he had a dog that would go into a pasture and separate the full-blood sheep from the half-bred ones, and drive each lot to its proper place. I have no doubt that this is true. A Westmoreland farmer had to beat this, and he said that he sent his dog up over the fell and he brought him back every time the exact count of the sheep feeding there. A Cumberland man declared that his dog would go up over the fell, and if he found a gap down in the fence he would put it up before coming home. A number of "good 'uns" were lost because I could not understand the dialect in which they were told.

In some sections, trials of dogs are held upon the farms where they belong, to determine which does his regular every-day work in the best manner. These excite great interest in a neighborhood.

The Breed.—Among all the dogs that competed at Windermere, there was not one that could be classed as a Collie; some might be said to be one-quarter and others one-eighth bred. They were as much like the Lapp's riendeer dogs in Norway and Sweden as could be. If placed together, no stranger could distinguish them.

TRACK AND FARM.

The Eastern Horse Situation.

After all that has been said about the improvement of the Eastern horse situation, it does not appear to have picked up very much. There is still much depression and disgust among breeders, and they are largely neglecting breeding. This conduct has, however, one hopeful feature—the fewer horses bred the greater surety that they will be worth something.

Horses in Indiana.—W. W. Latta writes to the *Rural New Yorker* to correct the reports that horse breeding has greatly revived in that State. Horse breeding, comparatively speaking, has ceased in Indiana. In this part of the State, at least, few colts can be seen on farms the past two years. Stallions have been sacrificed until there is really a scarcity. There are still more than enough for the demand as it exists, and, since there is no visible prospect of a greater demand, the sacrifice goes on. There is nothing encouraging in sight to the farmer breeder that I can see, in any line of live stock, and I be-

lieve that every domestic animal produced in this latitude, thrown upon the market as it now is, will bring less than cost. This statement is meant to apply only in general terms. Individual success is in the man, as in all other branches of business. I am writing in general terms, and of the majority. Horse breeders can only be hopeful that, when conditions change, so that other live stock pay for production, horses will also be profitable to raise. The tendency now to try to produce the large, active horse that can fill any place is, certainly, the road to follow. Since at least 100 horses have left the State by sale or death, for every five colts born the past two years, it would seem as though there must soon be reaction in prices.

In New Hampshire.—A correspondent states that the New Hampshire business in horse breeding is dead. Ten, even six, years ago, fairly good and some very good stallions were to be had, and did a living business. Many farmers bred their mares to trotting-bred stallions, with varying results, depending mainly upon the quality of the mares and the skill shown by the owners in raising and training the colts. Some wise men took a little more trouble to find and patronize a first-class Percheron or French coach stallion, getting colts that cost no more to raise, much less to train, and were far more salable at a fair price when four or five years of age. Now the stallion that earns, in fees, more than the cost of his feed is, I think, the exception. Farmers, when asked to bring their mares, will say: "What's the use when I can buy a young, sound, serviceable horse for from $35 to $75?"

What a Horse Costs in New England.—I think that I am within bounds in the claim that, to breed and raise a colt which has size, style, good disposition, good bone, and is well developed—say one that will stand 15½ to 16 hands and weigh 1050 to 1100 pounds at four years of age—will have cost nearly, or quite, $50 a year here in New England. Count what the hay, grain, milk, etc., would cost if bought or sold. A colt may be kept alive for four years on pasture and poor hay; but buyers will not be running after it. For the past two or three years very few farmers have been able to get $200 for a colt, or even half that sum; many well-bred colts have been sold for $25 or less.

The Only Chance Is in a Good Horse.—Ordinary horses can hardly be given away; really good ones are, and always will be, in demand at fair prices. One man from New York told me this summer that, hearing on all sides that horses could be bought for little or nothing, he put $300 into his pocket, and started out to buy a first-class road horse for his own use, but discovered, to his sorrow, that he must add $400 to the amount to get what suited him. A man from Boston was looking about in New Hampshire for a horse; and when asked why he came so far, when the city, according to reports, was full of horses having every desirable qualification, which he could buy for $100 or less, replied that he had been unable to find such. These men did not demand extreme speed or great style, but wanted animals of good size and color, prompt, cheerful drivers, sound, well broken, of good disposition, and for such were willing to pay a good price.

A Good Time to Begin.—While breeders are not, as a rule, hopeful for the future, there are some who believe that this is a good time to begin. Good mares and stallions may now be bought at reasonable prices. When any industry is depressed, there are always men in it bound to get out at any sacrifice; and four or five years later, when these colts are old enough to sell, they will be in demand. Breed nothing but the best, and let feed, care and training equal the breeding.

FLORIST AND GARDENER.

Ornamental Plants in Southern California.

During the month of June, *Calochortus Plummerae* is in season, the last of the genus to flower in this region, and though not as showy as some species, it is very attractive. The flowers are of a rich lavender-purple of many shades, with yellow hairs at the base of the petals. I once found a dead stalk which was four and a half feet high and had borne ten flowers. The usual height is from two to three feet. It is found on high hills and ridges, where it is quite dry at the time of flowering. If the stalks are cut when the buds are nearly mature and placed in water in the house they expand beautifully and produce larger flowers than if left on the plant. In rare instances I have found plants bearing flowers of a pleasing shade of salmon pink.

During the latter part of June and early July is the season for *Delphinium cardinale*. To come upon a large group of this plant in full bloom for the first time is an event never to be forgotten. I first saw a mass of these plans is the distance from the top of a hill. Descending, I came upon them in such a position that the rays of the setting sun intensified the brilliancy of their fiery orange-scarlet color. It has been said that to some persons a red color suggests the sound of a trumpet. Such a one would here have heard the blare of a thousand trumpets. I gathered a large armful of stalks from three to seven feet high, and on reaching home placed them in a Mexican water-jar standing upon the floor. With the addition of some fine stalks of the lovely white *Romneya*, the starry white flowers of the "soap-plant" and some tall wild grasses, a floral piece was made which might please the most fastidious. The Delphinium flowers continue to expand for several weeks in water. The roots endure great drought, becoming brittle as pipestems, yet starting readily on the arrival of the rainy season. It flourishes only in sandy or decayed granite soil.

It is interesting to note the variation in color of some California plants. *Mimulus viscosus* in the type has flowers of a rich buff-orange. In the high mountains a form is found with primrose-yellow flowers, and in one instance I found a plant bearing flowers of a French white, and in another locality a plant bearing flowers of a brilliant rust-red, a most distinct and pleasing shade. In rare instances plants of the type are seen in our gardens, where they flower throughout the year.

One of the most notable sights in southern California gardens in summer time is the Australian flame tree, *Brachychiton acerifolium*, in full flower. In the garden of Mr. C. H. Richardson, of Pasadena, is probably the finest specimen in this region. The tree is of fine pyramidal shape and about twenty-five feet high. At the time of flowering it is entirely destitute of foliage, but is literally covered with bloom. Every branch and twig is terminated by loose spikes of flowers about half an inch in diameter, in shape somewhat resembling lily-of-the-valley. Their color is the brightest vermilion. Such a gorgeous spectacle is worth a long journey to see. At all other times the tree is covered with rich green foliage and is very ornamental.

I have succeeded in flowering the rare *Gerbera Jamesoni*, from South Africa. The plant is not yet well established, but produced a solitary flower two and one half inches across. The rays were somewhat narrow, but otherwise the flower resembled a marguerite or a field daisy. It was of a bright orange-scarlet color and very handsome. This color is very rare in the compositæ, and should the plant prove a good grower here it will be welcome addition to our gardens.—E. D. Sturtevant of Los Angeles in Garden and Forest.

HORTICULTURE.

Walnut Growing in Europe.

At the request of the Los Nietos and Ranchito Walnut Growers' Association Hon. E. Germain of Los Angeles, now United States Consul at Zurich, undertook an inquiry into walnut growing in Europe, and his report appears in the last volume of the consular reports.

Walnuts are, to a certain extent, as in Switzerland, grown all over Europe, but in most countries, such as Germany, Belgium, Holland, etc., the yield is small, and some years not sufficient to supply the home demand, the deficit being supplied from the more favored walnut growing countries. Thus it will be seen that France, Italy and Austria-Hungary are the only countries raising that article in sufficient quantities for export.

France.—The French walnut growing districts are the departments of Dordogne, Correze, Lot and the Grenoble district in the department of Isere. The latter are of especially fine quality, being of the soft-shell variety, large, white meat, and running uniformly. These nuts yield the grower from 93 to 105 francs per 100 kilgrams (about 8 to 9.18 cents per American pound). The latter price is for Grenoble nuts. The crop in France this year is good. It compares favorably with former years and is as good as 1895. The 1895 crop was above the average and that of 1894 below. The principal points of exports for France are Bordeaux, Marseilles and Havre. The trees in France are not subject to scale, blight or other diseases. The orchards are mostly small and owned by farmers.

Italy.—The Italian walnut growing districts are the Neapolitan provinces around Naples, Castellamare di Stabia and Sorrento. The points of export are Naples and Sorrento. In Italy this year's crop compares favorably with former years. Last year's (1895) crop was one-fourth less than a medium crop and somewhat inferior to the average. The principal growing district is Piassio di Sorrento. The trees are, to some extent, owing to climatic influences, subject to scale and blight diseases. The walnuts bring on an average $9.25 per 100 kilograms, or from 4¾ to 5¼ cents per American pound. The extent of orchards is the same as in France.

Austria-Hungary.—The walnut growing districts of Austria are in the lower part of the empire, or what is known as "Nieder Oestreich." In first line comes what is known as the Steiermark, where the crop is is a medium one; second, Mahren, a good crop; and third, Bosnia, where the crop prospects are excellent. Last year's crop was a light, medium one in the above named districts, and the nuts, as a rule, are poor, not well filled, small, and of the hard, thick-shelled variety. In Hungary the districts of Nagy, Banya and Grosswardein produce an excellent nut of good quality, large, white-meated, and well filled, and, as my informant tells me, compares favorably with the French Marbeux nuts. No figures as to prices are given. The point of export for Austria-Hungary is Trieste. Trees are hardy and not subject to diseases, as scale, etc.

Walnut Exports to the United States.—In order that the California walnut grower may know where he has to look for competition, and what quantities of walnuts are exported to the United States, Mr. Germain gives the points of shipment and the declared values of walnut exports in dollars (being unable to get figures as to quantities) to the United States for the last two quarters of the years 1894 and 1895, these being the periods of the year in which walnuts are gathered and shipped, and as given in the United States Treasury returns for the above named years:

Whence Exported.	1894.	1895.
FRANCE.		
Havre	$50,832.39	$12,281.00
Bordeaux	156,579.01	82,282.00
Grenoble District	58,886.00	52,788.00
Marseilles	73,584.00	174,445.00
ITALY.		
Castellamare di Stabia	2,624.43	71,809.32
Naples	10,256.00	19,755.85
Sorrento	34,076.90	None.

Austria-Hungary is not credited with any walnut export to the United States. The only other country growing walnuts which exports them to New York and San Francisco is Chile. These, as a rule, reach New York and San Francisco in the month of August, and the only data he could find in the United States Treasury returns as to the walnut export from that source is that contained in the returns for the quarter ended September 30, 1894, in which Chile is credited with an export figure of $5844.48 for that year. No figures are given for 1895, and the presumption is that no walnuts were received.

A September Cherry.

Dr. A. W. Thornton, West Ferndale, Whatcom county, Wash., sent the *Rural New Yorker* a few seedling Bigarreau cherries, which reached New York on Sept. 5. This is the second year the seedling tree has borne. Last year the cherries remained on the tree until the middle of September. The doctor says that the habit of the tree is different from that of any other. While the leaves of others are fading and falling, those of this seedling are still green, remaining so until late in the fall. Though making no pretense as a judge of cherries, the editor of the *Rural New Yorker* would regard this, judged by what little information he possesses, as by far the best late cherry he has ever seen. The cherries measured fully one inch in diameter. The color was a deep crimson, gradually shading to a lighter color on one side. The pit was small, flesh firm, meaty, half juicy and fine. The cherry clings firmly to a slender stem two inches long. It strikes the Eastern editor that this variety must prove a valuable acquisition.

French Prunes on Early Peach Stock.

To the Editor:—Theories are useful, facts are invaluable, and all rules have exceptions. It is a theory that a tree is not affected by the nature of the stock on which the scion is grafted. The theory is in the main correct, but to my personal knowledge there can be an exception. About twelve years ago a peach orchard was planted, containing several varieties. Five years ago the tops were cut off and the stocks grafted to French prune. After the prune growth came into bearing it was found that the prunes on a block of twenty-five formerly Hale's Early peach were earlier, larger and more numerous than those grafted on the other varieties of peach, notably so. Besides these twenty-five there were a few other trees of Hale's Early in another part of the orchard, and in somewhat different soil, which were affected in the same manner.

To my mind the reason for all this is none other than that the prunes are affected by the nature of the tree of which they are grafted, since the only ones affected were on roots of an early peach, and the prunes on the later varieties were not noticeably different from the ordinary.

Calistoga, Cal. A. C. Bryant.

A Seedling Peach.

To the Editor:—I send you a sample of my new peach. Mr. Burbank of Santa Rosa said I might say to you that he was very much pleased with the peach. The tree is very thrifty, a heavy bearer and free from curl leaf. H. P. Belford.

Cloverdale.

[It is a very excellent yellow freestone, flavor true and delicious; flesh unusually fine and melting of delicate yellow and almost devoid of color at the pit, which is very small and shapely. It strikes us as likely to become popular as a table fruit or as a canning freestone. The size is medium and satisfactory.—Ed.]

The Atom.

Sir Robert Ball, the eminent astronomer, in giving an explanation of the nature of the atom and the devisibility of matter, said lately: "Let us take for our illustration some substance which, as far as we can tell, is absolutely homogeneous, inasmuch as it consists only of a single element. I select for this purpose a piece of iron, and suppose it to be divided into two portions. Let each portion be subdivided again, and yet again, until at last it shall have been reduced to the minutest portion of which our senses can take cognizance. Each one of the little pieces, so obtained, will still possess all the qualities of iron. We shall further imagine that we are provided with some means for carrying on the subdivision of an iron particle to a point much beyond that which any mechanical appliance at our disposal can affect. We shall even suppose that we are able to continue the subdivision of the iron long after the particles have become too minute to be visible, even in the most powerful microscope. Modern science has, however, taught us that though this subdivision can be carried on so far, yet it can not be protracted indefinitely. A point would at last be reached where each of the little particles, though still possessing all the qualities of iron, would refuse to admit of any further subdivision. The particle in question may, no doubt, be composed of parts, but if we could separate those parts they would not be iron, they would not, in fact, be anything like iron. This piece of iron, which can not be further reduced, is called an atom. The derivation of this word indicates that the object to which it is applied is a something which can not be cut. We are thus led to the conception that all matter on the earth or throughout the universe is constituted of aggregations of atoms. The sun itself is no more than an enormously great, though quite definite, number of those ultimate atoms out of which all material objects must be composed.

"We may also illustrate the fineness, so to speak, of the ultimate texture of matter in the following way: Think of a plate of copper possessing the same thickness as the page on which this is printed. It is perfectly certain that if we had machinery by which we could beat out that copper until the plate was reduced to the thousandth part of its present thickness the thin sheet so produced would still be found to present all the characteristics of copper. Even if the sheet could be beaten out ten times more, so that its thickness were ultimately reduced to one ten-thousandth part of that of the original sheet of paper, the substance in the plate would still possess the characteristics, chemical and physical, of actual copper. It can, however, be inferred by an ingenious line of reasoning, given by Lord Kelvin, that if the plate thus attenuated were to undergo a yet further reduction, which would make it to have no more than the millionth part of the thickness of this sheet of paper, then the substance would have ceased to be copper in the sense in which we understand the word. It would approximate to a layer of individual molecules, further subdivision of which would be impossible."

In twenty-five years the total number of United States patents rose from 98,460 to 568,619. Of the latter number, electric generators claim 3,117; electric railways, 2,019; electric lighting, 3,622; electric power, 1,183; telegraphy, 3,205, and telephony, 2,459.

STATE OF OHIO, CITY OF TOLEDO, } ss.
LUCAS COUNTY,

FRANK J. CHENEY makes oath that he is the senior partner of the firm of F. J. CHENEY & Co., doing business in the City of Toledo, County and State aforesaid, and that said firm will pay the sum of ONE HUNDRED DOLLARS for each and every case of CATARRH that cannot be cured by the use of HALL'S CATARRH CURE.

FRANK J. CHENEY.

Sworn to before me and subscribed in my presence, this 6th day of December, A. D. 1896.

{SEAL} A. W. GLEASON, *Notary Public.*

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The Chicago Tower.

The Chicago Tower Company, recently organized with a capital stock of $1,000,000, will erect on the West Side a tower 1150 feet in height—202 feet higher than the Eiffel Tower in Paris. The foundation will consist of four four-cornered supports, each 50 feet square, and meeting in an arch 200 feet wide and high. On top of these arches will be a vast landing 250 feet square and capable of accommodating 20,000 people. There will be six other landings, with a capacity of 20,000 more, each smaller than the one below. The topmost will be provided with a powerful searchlight and telescope. Sixteen elevators will carry passengers to the first landing, eight to the second, six to the third, and from there four cars will take passengers to the 1000-foot landing. A theater, restaurant, booths and exhibits of every description will occupy the landings. Electrical displays will be made from the top landing at night. Many other features will be added for the amusement of persons visiting the tower. The estimated cost of the structure will be $800,000. The annual income is expected to exceed $300,000 and the cost of management $50,000. Bathroom, barber and florist shops, delicacy booths and convention rooms are devised in the plans as means of revenue. On each landing will be telegraph and telephone stations. Fireworks exhibitions will be given and the concert halls are expected to afford considerable income.—Chicago Journal of Commerce.

The rapidity of the growth of electrical industries in the United States is illustrated by some recently published statistics. It is now only some seventeen years ago since the first electric central station was erected in America; now there are 2,500 separate electric light companies in existence, and in addition 7,700 municipal and other isolated plants. The capital invested in these is estimated at $500,000,000. These establishments are reckoned to require daily from 50,000 to 75,000 incandescent lamps, while they consume annually 200,000,000 carbons. Against the electric railways in Europe, under 100 altogether, there are now running in the United States about 900, covering 11,000 miles of track and representing a capital estimated at $100,000,000. All this has been the work of less than seventeen years.

John Jacob Astor's yacht—the Utopian—the largest yet constructed, to be operated by electricity, was launched Sept. 10. Four hundred and eighty cells of battery are to be installed for the operation of two 25-horse power motors. It is said that the installment will carry power for fourteen running hours. The yacht is fitted with a system of bells, arranged so that the helmsman can signal aft, and will be lighted electrically. Her main dimensions are: 72 feet long over all, 12 feet beam and 4 feet draught.

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In the *Annales de Micrographie*, M. Miquel gives statistics for ten years of the numbers of bacteria in a cubic meter of air, both in the center of Paris and in the park of Montsouris. In consequence of local improvements, the air in the park has gradually become purer, the number of bacteria having decreased from 480 per cubic meter in 1884 to 275 in 1893; but the air in Paris itself has increased in micro-organisms from 3,480 in 1884 to 6,040 in 1893. This large increase, M. Miquel attributes to the greater cleanliness of the inhabitants, who, by dusting out and cleaning their houses and shaking carpets, etc., stir a large quantity of germs into the air. He even goes so far as to condemn this form of cleanliness, on the ground that the germs are simply blown about by the wind, and find their way into the house again, so that if you do not get your own germs back, those from your neighbors fly in at the window instead.

In no other country is the railroad mileage near as large relatively to the number of inhabitants as in the United States. The chief nations of Europe have one mile of railroad to an average of 2600 people, while in this country the average is 380 inhabitants to one mile of road. This is the result of the competition between different railroad companies. In Iowa, where the fight is perhaps bitterest, the number of inhabitants to one mile of road is only 243; while Germany, with very nearly the same amount of mileage, has 1895 inhabitants to the mile—a number nearly eight times as great.

Mr. Trotter, in a recent lecture before the South African Philosophical Society, says a London exchange, plunged a steel knife and a silver fork into an orange, forming a battery by which he was able to send signals over one of the long-distance telegraph lines to Port Elizabeth from Cape Town, including a resistance composed of a row of persons joining hands.

Notice to Passengers.

Keep your baggage checks until you reach San Francisco and you will save money by leaving same at any of our offices, our rates being lower than all others, viz., Trunks, 35 cents each. N. B.—We do not have any agents on the trains or steamers. MORTON SPECIAL DELIVERY, 408 Taylor St., 650 Market St., and Oakland Ferry Depot (foot of Market St.).

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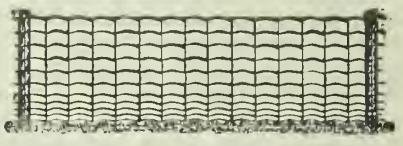
One of Illinois' Most Prominent and Highly Honored Men Suffers From Injuries Sustained in a Fall—His Colleagues and Fellow Citizens Testify to His Integrity and Public Spiritedness.

From the Journal, Macomb, Ill.

Theodore B. Switzer is the senior member of the law firm of Switzer & Breeden of Macomb, Ill., and will this fall (1896) close a brilliant four years' term as State's Attorney for McDonough county, Ill. Years ago he was severely injured by a fall from a horse, sustaining a hurt in the right side in the region of the sciatic nerve, leaving this portion of his anatomy weak and susceptible to disease. When last February's term of Circuit Court came on he found himself, from close application to his business, sadly run down—in fact, he was on the very verge of nervous prostration. Mr. Switzer told the *Daily Journal* reporter that while laid up, with no possible signs or prospect of relief from his family physician, he read a testimonial wherein Dr. Williams' Pink Pills for Pale People had cured a case parallel with his own, and he immediately made up his mind to try the remedy. He sent for a package and commenced their use immediately according to directions, with the result that he began rapidly to mend and was soon attending to his business once more.

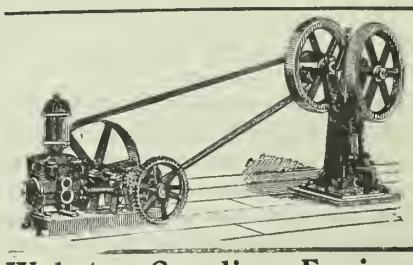
Dr. Williams' Pink Pills contain, in a condensed form, all the elements necessary to give new life and richness to the blood and restore shattered nerves. Pink Pills are sold by all dealers, or will be sent postpaid on receipt of price, 50 cents a box, or six boxes for $2.50 (they are never sold in bulk or by the 100), by addressing Dr. Williams' Medicine Company, Schenectady, N. Y.



FENCES AND FERTILIZERS

It is customary to spread the plant food evenly over the field, then mix with the soil. Why not bury it all in one corner of the field? That's the way some people build "elastic" fences. When a shock strikes the Page, it don't have to wait while a boy "goes to the spring," but finds it all along the line.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



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THE HOME CIRCLE.

The Busybody.

She sits behind the curtains, drawn,
Or else behind the shutters;
She watches every coat and hat
And every dress that flutters:
There's not a thing the neighbors do—
Unless they seek to pester
By shutting doors and windows, too—
That doesn't interest her.

She knows what kind of meat they buy,
What kind of servants buy it,
Who calls on who, and whom and why,
And no one can deny it.
She hears the door bells when they ring,
And, though she may be sleeping,
Up from her slumbers she will spring
To do her little peeping.

It's really fun, so folks aver,
To see her daily dodging;
A matrimonial spat to her
Is food and drink and lodging.
And should some husband sneak home late,
O'ercome with curious capers,
He might as well proclaim his state
In all the daily papers.

She'll tell you what the lovers say
When on the steps they're spooning,
And each piano, far away,
That stands in need of tuning.
About her knowledge of affairs
She often grows elated,
And seems to know 'most everything
Except just how she's hated.

Right About Face.

"Now, right about face!" September cries.
"Right about face, and march!" cries she;
"You, Summer, have had *your* day, and now,
In spite of your sorrowful, clouded brow,
The children belong to *me*.

"Come, fall into line, you girls and boys,
Tanned and sun-burned, merry and gay;
Turn your backs to the woods and hills,
The meadow ponds and the mountain rills,
And march from them all away.

"Are you loath, I wonder, to say farewell
To the summer days and the summer skies?
Ah! the time flies fast, and vacation is done;
You've finished your season of frolic and fun;
Now turn your tardy eyes

"Toward your lessons and books, my dears.
Why, where would our men and women be
If the *children* forever with summer played?
Come, right about face!" September said,
"And return to school with me."

—Harper's Young People.

A Wasteful Woman.

"It is true it is none of my business," said Miss Sellers to herself, as she left the pavement at the end of the village street, and struck out on the dusty road; but the reflection did not seem to call the slightest halt in her progress.

"I always did hate to see people imposed upon," she continued, "and 'specially a single woman; I'm single myself, and I know what a forlorn sort of fight a single woman keeps up against the world. Everybody is ready to cheat her, and take advantage of her; everybody. Well, this new comer sha'n't be run over for want of knowing who it is that's doing it. I'm going to tell her myself. She looks sharp and cross enough; I wouldn't be a bit surprised if those good-for-nothing Woods children had met their match."

These thoughts, and a dimmer undercurrent of thoughts and feelings like these, kept Miss Sellers company out to the dilapidated gate of "The Briary," a suburban villa, which, after lying untenanted for years, had just been rented by a stranger. Miss Sellers' pull at the rusty bell brought the stranger herself to the door.

"You see I am my own housemaid," she said, in a soft voice, strangely at variance with her sharp nose and chin, and sharp, near-sighted eyes. "Walk right in, and please excuse my confusion; I am so much obliged to you for calling soon, it was very good of you."

"Well," said Miss Sellers, "I might as well tell you that I came early to give you a right start. You see this place has belonged to the public so long that if you don't shut down on them at first, there's no saying how much trouble you will see."

Miss Kitty Hart looked so astonished that a less persistent meddler would have been baffled, but Miss Sellers, being strong in her disinterestedness went on:

"Now there's the Woods children, a gang of idle beggars; they were getting apples out of your lower lot yesterday, so I heard, the same as if they owned the place."

"Indeed!" said Miss Kitty, but very mildly, "where do they live?"

Miss Sellers located the offenders, and in answer to a few questions gave their family history. A pitiful tale it was, to be sure.

"Thank you for telling me about these people," said the stranger. "Are there any more in my neighborhood?"

"They are about the worst," said her visitor; "but you are going to have trouble with Mrs. Bell's cow; they've not got any pasture lot, they turn old Brindle out to graze on the roadside, and nobody has been born smart enough to invent a gate that Brindle can't open."

"I wonder they should keep a cow, when they have no place for her," suggested Miss Kitty.

"La! They couldn't get along at all without Brindle; there are more babies in the family than you could shake a stick at, and the old cow really seems to work hard for something to make milk for those babies. You'd think they were hers."

Then a strange dimness came into the near-sighted eyes; perhaps the good angels knew it was a feeling of pity, and found it beautiful, but to outward appearances it only made them red around the rims. Miss Sellers got up and said good morning.

"I'll look in on you again, when you are fixed up for company," she said, "this was just a sort of duty visit."

"I am a thousand times obliged to you," said the stranger, "you have done me a real kindness, and one that I am going to profit by, I assure you."

"That's right; you look after your own interests now, for if we don't look after our own, as I always say, nobody else is going to do it."

A little twist of a smile appeared on Miss Kitty's face, as her visitor turned her back. "It seems as if there were somebody looking after mine," she said to herself, "so I must be looking after these others now; poor little apple gatherers!. I'll see about them first."

Miss Sellers was so busy doing her fall cleaning, for the next few days, that she left the stranger wrestle with her own affairs; but chancing to see black Joe, who drove Mr. Bare's cows, and who had been her informant before, she hailed him, and asked how things were going on at "The Briary."

"Lor' love your soul, Miss Mary," said the old man, "you ain't never seen such carryin's on since you been born! Them Woodses is thar twict a day, let alone onct. They totes home everything off the place. More'n that, she done 'ploy old man Woods to fix up de fences and such, an' de ole woman is makin' her carpets. Seems lek she done 'dopted de fambly. Den, dar is Miss Bell's cow jest fair reposin' in de pasture lot, you never see de beat, and a whole passel of dem chillun totin' of apples and sweet 'taters. Dis heue is de most oncommon wasteful ooman I ever set eyes on, an' dat's a fac'."

Miss Sellers was stunned. What was the meaning of all this, when the stranger had thanked her for her prompt warning, and had expressly said that she would profit by it? But she would see about this thing before she was a day older. Never mind about the flowered damask curtains, they could stay down awhile longer.

Miss Sellers picked up her skirts, and flew along the dusty highway again; she had no eyes for the purple thistle, blooming royally in the fence corners, nor for the red shouldered "epaulette bird" scurrying before her on the rails. The first sight that attracted her attention and brought her to a full stop was what looked like a gypsy camp in the yard of "The Briary." Evidently it was an apple-butter spree, and the very leaves seemed to share the pleasure of the occasion, smiling and waving in the bright sunshine. Miss Sellers would have turned back, but curiosity carried her on, into the midst of the happy workers. As soon as Miss Kitty's near-sighted eyes made out who it was, she took her visitor off to a rocking chair on the sunny south porch.

"You don't mind my sitting out here, do you? I feel as if we ought to be storing up sunshine days like this; my carpets aren't down yet, nor my curtains up, but they can wait for the cloudy days."

"You seem to be storing up apple-butter, too," said Miss Sellers, with a rather grim look at the lawn party. "How many gallons can you manage to eat before spring?"

Miss Kitty laughed till the tears came. "Did you think I was going to undertake all that? Bless you, we're doing it on the shares."

"How many shares?" asked Miss Sellers suspiciously.

"There are five children, and two grownups, of them," answered Miss Kitty innocently, and I make eight; we'll quarter it, and then halve the quarters."

"You must have plenty of bank stock between you and the poor-house!" exclaimed the visitor spitefully; she was thinking how her good intentions had been wasted.

"I have a very small income," said Miss Kitty, meekly; "but it would be hard on us poor people, if only the rich ones were allowed to help the needy. I feel so much happier, and more at home in this strange place, since I found that my Father had some of His poor creatures here that I could do something for. I have thanked Him every day for sending you out here to take my mind off house furnishing, and show me these lives that I could make happier."

"I don't know as He had anything to do with sending me," murmured Miss Sellers, and then she lifted her eyes and saw Brindle "just fair reposin'" in the next lot.

"Good-by," she said, getting up so abruptly that the rocking chair swung over backwards. "You certainly are a wasteful woman, as Joe says. But there! It won't be safe to mention black Joe to you, or I'll find him browsing about on you, next time I come. Well, maybe there's such a thing as being too saving; I never thought of that before."

But she thought of it all the way home, and for days after, until there crept into her heart, chilled with lonely selfishness, the glowing thought that God himself was blessedly prodigal of sunshine and blossoms, and sweet breezes. It is too late for her to learn Miss Kitty's full free-handedness, but there is more than one narrow home that will be brightened, and more than one hard-pressed fellow creature cheered this winter, because the lonely old soul is learning to be a wasteful woman!

Curious Facts.

If you should go to Greenland you would be surprised at the size of the potatoes there, for they grow no larger than a marble.

The widows of Presidents Grant and Garfield are now the only private persons in the United States who are entitled to the franking privilege.

A French chemist has made a blue soap which will render unnecessary the blueing in the laundry. In ordinary soap he incorporates a solution of anilin green in strong acetic acid. The alkali of the soap converts the green into blue.

Fresh fish, if wrapped in a cloth wrung from the brine and kept from contact with each other, will keep longer than in any other way. Sprinkling meat or fish with charcoal or thickly with red or black pepper has a tendency to arrest decay.

One of the most simple and at the same time most effectual ways in which to remove a fishbone or other substance lodged in the throat is, according to the *Medical Times*, to give the patient a pint of milk and forty minutes afterwards an emetic of sulphate of zinc.

A Chicago genius was recently granted a patent on an automatic fishing rod. This great labor-saving device consists of a rod and holder cocked and poised upon a strong spring. In this position it may be left upon the shore by itself, after the owner has baited the hook and cast it into the water. When a fish seizes the bait the tug it gives the line opens the trigger and the fish is jerked ashore and landed high and dry by the uncoiling of the spring. This invention at once removes fishing from the list of laborious occupations and makes it nothing but pastime.

Gems of Thought.

Know and grow.—T. J. Villers.

Pride is the greatest danger because the greatest lie.

Eminent respectability and arctic frigidity.—T. J. Villers.

The bible is our greatest monument from the past.—Ira M. Price.

Civic virtue is a good text for the preacher always, but a better thing for every citizen to guard in his daily life.—William McKinley.

Life is a struggle, a glorious struggle, and if the right means are employed, it is sure to be a victorious struggle.—Rev. George H. Hepworth.

We are the baby of nations, one of the family of the world, and are answerable to the others of the family for our acts as a nation.—Rev. Dr. Hougton.

When you have done a kindness, and your neighbor is the better for it, why need you be so foolish as to look any farther and gape for reputation and requital?—Marcus Aurelius.

The horse, no sooner is his head turned homeward, than it trots, and goeth cheerfully. And shall not we, who deem ourselves wiser than the horse, go to our home cheerfully?—Ivan Parrin.

Politeness is a kind of anesthetic which envelops the asperities of our character so that other people be not wounded by them. We should never be without it, even when we contend with the rude.—Joubert.

The way of usefulness in this world leads by the cross. If we would relieve the poor, we must love them. If we would put our shoulder under the burdens which others are carrying, their sorrows must be actually ours. If the enmities which exist among individuals and classes are ever to cease, those who have wealth and faculty must give themselves to the service of humanity. If the blessed evangel of dying love is to penetrate all lands, Christians must be willing even to die that their fellow-men may enter into the life of the children of God.—Abbott.

Yes, here in this poor, miserable, hampered despicable actual, wherein thou even now standest, here or nowhere is thy ideal. Work it out therefrom, and, working, believe, live, be free. Fool! the ideal is in thyself; the impediment, too, is in thyself; thy condition is but the stuff thou art to shape that same ideal out of. What matter whether such stuff be of this sort or that, so the form thou give it be heroic—be poetic? Oh, thou that pinest in the imprisonment of the actual, and criest bitterly to the gods for a kingdom wherein to rule and create, know this of a truth—the thing thou seekest is already with thee, here or nowhere, couldst thou only see!—Thomas Carlyle in "Sartor Resartus."

Popular Science.

The result of recent analyses shows that the loss of weight suffered by coal from exposure to the weather is considerable. In some cases it reached 33.08 per cent, while the deterioration in quality for purposes of fuel or gas-making reached a still higher figure.

Vesuvius is an interesting sight just now. One stream of lava flowing down from the center is 100 feet wide and from 7 to 14 feet deep, while a hundred other smaller streams are running down the cave and a big column of black smoke rises into the sky.

Photography has lately determined the depths to which the sun's rays can penetrate through water, and the result is that at a depth of 553 feet the

darkness was about equal to an exposure on a clear but moonless night. The exposed plates at this depth gave no evidence of light action.

A curious lake has been found in the island of Kildine, in the North sea. It is separated from the ocean by a narrow strip of land and contains salt water under the surface, in which sponges, codfish and other marine animals flourish. The surface of the water, however, is perfectly fresh and supports water creatures.

"Every one should know that to eat when tired is to place upon the digestive organs a burden which they are wholly unable to carry," says *Modern Medicine*. "When the body is in a state of fatigue, the digestive organs are unable to perform their natural functions; the glands of the stomach will not form gastric juice; the saliva is deficient in quantity, and the whole digestive apparatus is incapable of doing efficient work. When exhausted, one should rest before eating. If a faint or 'all-gone' sensation is experienced, relief may be obtained by drinking a glass of hot water or diluted fruit juice of some sort."

In a study of the visibility of lights at sea, made by a commission of the German Government, it has been found that a white light of one-candle power is visible at a distance of 2800 yards on a clear night, and at only a mile on a rainy night. When a white light of one-candle power was visible at one mile, one of three-candle power was visible at two miles, of ten-candle power at four miles, and of nineteen-candle power at five miles. A green light of one-candle power was seen at eight-tenths of a mile, and to be visible at one, two, three and four miles the candle power must be two, fifteen, fifty-one and one hundred and six, respectively.

Hygiene of the Nursery.

Regular habits, proper food and long hours of sleep are necessary conditions to a healthy infant. The three prime essentials in the nursery are fresh air, good food and pure water.

Never put a bottle nipple in your mouth and then into the baby's mouth; this will often prove dangerous.

Always hold a baby in your arms when feeding it, in about the same position as if nursing it.

Feeding at night, after the third month, is both inconvenient and unnecessary; sleep at night is better than food.

Do not feed the baby because it cries. This may be due to pain, and it is hurtful to fill an infant's stomach at such a time.

Have a rule for feeding the baby, and do not vary from it. Without regularity the mother becomes a slave.

More infants' lives are taken by overfeeding than by starvation. Never liken an infant's digestion or diet to your own.

An infant's thirst is not quenched by milk; it needs clean water to drink with regularity.

Plain boiled water, given between feedings, will often aid the digestion, and satisfy the child when restless.

Vomiting and diarrhœa are indications that the child is either sick or approaching sickness, and probably needs a physician.

Cholera infantum would be of rare occurrence if proper attention was always given to the quality and quantity of the food.

A nursing mother who worries, or who is exhausted, or who indulges in excitement, may become a source of danger to her infant.

An infant is a creature of habit, and usually responds to the wish of the mother, if the mother has order in her will.

Light and loose clothing, frequent bathing or cool sponging are necessities for the infant in hot weather.

Cleanliness, as applied to the body, the mouth, the food, the vessels, the clothing, the furniture, the floor, the carpets, the beds and the atmosphere should be strictly observed.

School a Hundred Years Ago.

It was not in joyous fashion that school presented itself to a bright little girl, Mary Fairfax, who afterward became Mrs. Sumerville and one of the most learned women in England. Mary was fortunate enough to live the first ten years of her life by the seashore, the happiest, wildest, shyest child that ever played all day long on the yellow sands, and made huge collections of shells, and weeds and pebbles, and other treasures brought her as playthings by the waves. When it rained, and her mother would not permit her to run out, she read over and over again the three books which formed her library—"The Arabian Nights," "Robinson Crusoe," and "Pilgrim's Progress." Now and then her father, who was an officer in the English navy, came home from sea; and finding his little daughter as ignorant as a child could be he made her read aloud to him every morning a chapter of Hume's "History of England."

This was all her education until she was ten years old, when, one dreadful day, her parents sent her to a boarding school, a small and very expensive boarding school kept by Miss Primrose, who was so stately and so severe that her pupils used to say they never saw her smile. Thanks to the healthy, outdoor life she always led, little Mary was straight and strong as a young Indian, but that did not save her from the ingenious tortures designed for stooping children, and which she describes for us in her memoirs.

"A few days after my arrival I was enclosed in stiff stays with a steel busk in front, while, above my frock, bands drew my shoulders back till the shoulder blades met. Then a steel rod, with a semicircle which went under the chin, was clasped to the steel busk in my stays. In this constrained state I and most of the younger children had to prepare our lessons."

Think of it, you luxurious little people who perpare your lessons lolling on rocking chairs, nestling in sofa corners, or laying comfortably on warm hearth rugs before gentle fires! Think of studying a whole page of Johnson's dictionary every day, spelling, definitions, even the very position of each word in the long columns, and all the while unable to lean backward or forward, or turn your head from side to side—unable even to see what the girl next to you was doing! That was a discipline which must have made home and the dear shining ocean sands a picture of Paradise, of Paradise Lost to poor, tired, timid Mary Fairfax. And the worst of it was, she learned so little at Miss Primrose's school that when she escaped for her first holidays, she covered herself with disgrace by writing bank knot for bank note, and was severely scolded for being so idle, and wasting such golden opportunities.

She was taught how to sew, however, very neatly, and in after years she grew so passionately found of study, of real, hard, severe, uncompromising study, that it was necessary, when she was fifteen, to take away her candles, so that she might not sit up half the night over her books. Even then she used to arise at daybreak, wrap herself in a blanket—not being allowed a fire—and work away at algebra and Latin until breakfast time. She wrote a number of valuable works on scientific subjects and she lived to be ninety-two years old, proving that neither hard schools nor hard study are certain to shorten our days.—Agnes Repplier.

The mass of Mars is ten-ninety-fourths that of the earth; his volume is ten one-hundredths that of the earth. The force of gravity, therefore, at the surface of Mars is thirty-eight one-hundredths that of the earth, and a man weighing 150 pounds here would weigh only 58 pounds there.

There is this immense benefit in machinery, that it carries on those operations which debase the mind and injure the faculties. A man by constantly performing the same operations becomes unfit for any other.—Sir Humphry Davy.

DOMESTIC ECONOMY.

Domestic Hints.

Broiled Potatoes.—Boil large potatoes in their skins, peel and cut lengthwise in rather thick slices. Sprinkle with salt and place in the broiler, which should be previously greased. Broil nicely, arrange on a hot dish, butter, and dust with a little pepper, and serve.

Codfish with Cream.—Pour one cupful of cream over two heaping teaspoonfuls of flour, stirring all the time to keep smooth. Melt three tablespoonfuls of butter in a skillet, then add two cupfuls of picked and freshened codfish. Cook for about fifteen minutes. Put in a beaten egg, season to taste, and serve on buttered toast.

Apple Biscuits.—In spite of their name these do not belong to the bread family at all, as neither flour or yeast enters into their composition. Peel and core some ripe apples, and reduce them to pulp; flavor with essence of lemon, and mix while warm with their weight of powered sugar; drop on plates, or into paper cases, and dry in a slow oven for several days. The heat should never be sufficient to bake, only to dry them. When thoroughly dried they should be packed in glass or tin for winter use. Apricots, pears, raspberries, strawberries, plums, etc., may be done in the same way.

Baked Apples.—These are exceedingly nice when care is taken to prepare them properly. They should be put in a shallow pan that will hold about half a dozen and set in an oven that will bake them slowly. To prevent burning turn them two or three times while cooking and baste with the juice. If the apples are very juicy, a little water and two or three tablespoonfuls of sugar should be added when they are first put into the pan. A very nice way of baking apples is to peel and core them before putting them into the oven, filling the cavities with sugar and a little cinnamon.

Apple Sauce.—Apples intended for sauce should be pared, cored and put into cold water until they are placed over the fire to keep them from discoloration. Pour a very little water over them in the saucepan and allow them to cook very gently. They should be tightly covered and frequently looked at to see if they need more water. When the apples are quite soft, stir and mash them; add a little butter, pass them through a colander. If the sauce is to be used with meat, sweeten moderately before setting away to cool, otherwise a liberal use of sugar is more agreeable. A generous sprinkling of cinnamon or a dash of nutmeg, according to taste, may be added. Another method of making apple sauce is the following: Make a syrup; and when it is thoroughly boiled, drop the peeled and quartered apples in it. They should boil until soft and then be well mashed. This makes a richer sauce than when the apples and sugar are boiled together, or when the latter is added after the fruit is taken from the fire.

Hints to Housekeepers.

Meat and fish should be removed from paper as soon as received. The paper absorbs the juices.

To keep yolks of eggs fresh after whites have been used, set aside in a cup with a little water over the surface.

If a little flour is rubbed over a loaf of cake before icing, it will prevent the frosting from spreading and running off so readily.

Fresh eggs sink to the bottom of a pail of water. Stale eggs float on top. Eggs between these stages indicate their age by the depth to which they sink.

The tops of celery dried and rubbed to powder are excellent for flavoring soups and gravies. The celery should be dried in the sun or in a very slow oven.

When adding cornstarch or any thickening to hot liquid mix it smooth with enough cold water to make it fluid. Pour it slowly into the hot, and stir constantly until it becomes clear.

Rub a curtain pole with kerosene oil until it is perfectly smooth, using a woolen cloth for the purpose. The pole rings will run much more easily if the pole is treated in this manner.

Every housewife should impress upon the minds of her family that the best sauce for any meat is cheerfulness. Laughter aids digestion, and people should never grumble while eating.

Onion juice may be extracted by cutting an onion in half and pressing it against a grater. Salt rubbed over the grater will remove the onion odor from it, and may be used in cooking.

In making Indian-meal mush cook it with milk in place of water, or part water and part milk if not convenient to use all milk. The pudding will be much richer, and when fried will more readily take a nice brown.

In giving medicine in liquid form to an infant, place the point of the spoon containing the medicine against the roof of the mouth. Administering it in this way, it will be impossible for the child to choke or eject the medicine.

In relaying carpets after the fall cleaning it is well to sprinkle something under the edges to destroy any carpet bugs that may be lurking around. As good a thing as can be used is a powder made of equal parts of camphor gum and tobacco.

An authority on scallops advises the housewife to select those that have a yellow tint, as this is the natural color of the fish. Those that are white are often made so by soaking in fresh water so as to swell them and make them measure more than they otherwise would.

Hop pillows are frequently of great comfort to a nervous person, and will often soothe a headache. It is well to have one or two of these pillows at hand in case of need. Linen covers worked with some appropriate motto or a spray of the graceful hops in wash silks are attractive in appearance, and can always be freshened by being washed.

When setting sponge for bread or rolls, double the quantity may be made and that not needed kept in the refrigerator or wherever it is cold enough to prevent the sponge from rising. In this way rolls may be had fresh each day without setting an extra sponge. This dough requires a little longer to rise, but the results will be as good as if it were freshly set.

In washing anything made of chamois skins use warm water with a little ammonia in it. Wash by rubbing between the fingers, but do not wring the chamois. Press it between the palms of the hands to take out the water, and hang before the fire or in the hot sun to dry quickly, rubbing and pulling the article into proper shape every few moments, to prevent the skins drying hard and stiff.

Among the many objects discovered lately by W. Flinders Petrie and others, while excavating some 30 miles from Thebes, and now on view at University College, London, there is a pair of scales, which, with the exception that they turn on a pin, exactly resemble those used in our pharmacies of to-day. The length of the beam is about 4½ inches, a ring at each end carries the original cords, which are three in number, and the pans, about the size of a penny piece, are slightly convex in shape; a small ring is attached to the top, by which they may be held; the finish and workmanship are alike excellent.

There will be held in New York, at Madison Square Gardens, in January, a gas exposition for the purpose of bringing together a collection of gas apparatus and appliances of every description, for the two-fold purpose of affording the general public and the gas engineer an opportunity to study the developments that have taken place in the gas industry during recent years. The cooking demonstrations will be a feature of the exhibition.

A Graceful Frock and an Autumn Gown.

A CHARMING AFTERNOON FROCK.

1003—Primrose Waist.

Sizes for 12 and 14 Years.

Whipcord, in which the prevailing tone is olive green, with changing hues of terra cotta and blue, is the fabric of this simple but very stylish frock. The waist is a simple, slightly full blouse, having a jacket effect. There is, of course, a fitted lining, and the back is without trimming. The vest front is of brightly plaided surah, and the folded girdle can be of the same or of black satin or velvet. The skirt is the "Doris," which is described below.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

893—Doris Skirt.

Sizes for 12, 14 and 16 Years.

An extremely graceful design, having six gored breadths, flaring widely at the foot and fitting easily around the waist, except in the back, where the fullness is gathered. It may be lined throughout, but should have no interlining or facing. Any of the popular silks, woolen or cotton fabrics may be chosen for this model, and it may be worn with any style of coat, basque or waist.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

AN AUTUMN WALKING GOWN.

988—Aldersea Jacket.

Sizes for 34, 36, 38 and 40 Inches Bust Measure.

Dark blue camel's hair serge is the fabric of this becoming and youthful gown. The trim jacket is round in the back, and comes exactly to the waist line. It can be worn over a full blouse waist, or simply with a blouse front. The model gown is completed with a blouse of changeable silk, and the revers and cuffs of the jacket are of emerald green velvet, finished on the edges with black passementerie. This is commended as a conservative gown which can be worn becomingly by large as well as slender women. The skirt is the "Khiva," which is described below.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

867—Khiva Skirt.

Sizes Medium and Large.

This is an exceedingly graceful design, having seven gores, and measuring about five and a half yards around the bottom. It fits the figure trimly at the top, and the fullness in the back is gathered, allowing it to fall in easy folds. This model is used for the skirt illustrated. The popular finish for the bottom of the skirt is a facing about ten inches deep, of haircloth or canvas, and velveteen binding.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

Fashion Notes.

There is no more useful adjunct to the winter toilet than some sort of a fanciful waist, not necessarily silk. It may be of some airy, light stuff over silk (one grows so weary of uncovered silk) or some dainty cloth, prettily trimmed. These pretty waists are an item in which the middle-aged woman may delight, and something which gives her a wonderfully youthful look. One of these dainty waists, made for a sweet-faced woman of fifty, whose frame of silvery hair sets off the brilliancy of her coloring, is made up of pale violet chiffon drawn smoothly over a body of deeper-toned violet silk, just to soften the color. It is rather blousey at the front, though drawn in tightly at the back, and fastened under a twist of violet velvet finished with two small pointed bows. All across the waist, both back and front, are rows of butter-colored lace, 3 inches apart, set on frill fashion, so as to stand out. The full bishop sleeves are treated in the same fashion, resulting in an unusually pretty bodice. A wide stiff stock of velvet sets off the neck. This mode of trimming is becoming only to a figure which has retained its slender girlishness; crosswise lines will never answer for the form given over to embonpoint, but even for such the bodice may be trimmed, and with frills, too, only they must be placed in perpendicular lines from throat to belt, and instead of the belt of velvet or ribbon, lengthen the bodice into a point, both back and front.

The most vagrant fancies are encouraged in the new sleeves shown on gown or bodice. Especially is this so when they are intended for house wear. In what is called a "butterfly" bodice the sleeves resemble a butterfly, with their wings setting out each way. In one gown the skirt is a whirling mass of pretty folds of creamy white alpaca, made to fit closely about the hips at the front, while the tight, round bodice of white taffeta is overlaid with smoothly drawn white mousseline de soie, caught about the waist by a deep girdle of violet velvet, wide at the back and narrowed into a tiny belt at the front and fastened with a wide bow. A stock of velvet is folded about the throat and caught into a butterfly bow at the side. The sleeves are snug from wrist to near the shoulders, made of the white taffeta, closely wrinkled over with white mousseline de soie, and finished at the wrist by a deep, soft frill. From the shoulders flare an odd puff of the white alpaca, caught up to form butterfly wings, and fastened through the center by glistening rhinestone ornaments.

One is perfectly safe in buying a plain black satin skirt to wear with odd silk waists on dressy occasions where full dress is not required. Every indication points to a continuance of this fashion of contrasting skirts and waist during the fall and winter for home, visiting, theater and dinner wear. A black satin or a black silk skirt is always a good thing to be provided with.

Make a silk waist out of your plaid silk skirt, and wear it with a black, blue or green woolen skirt. A blue and green plaid having lines of yellow will look well with any one of these skirts. Wear a yellow ribbon stock collar and a gold belt with the waist for very nice occasions, and have a second set of collar and belt of bright green velvet.

The pointed bodice is a revival of old-time fashions, which appears on many new evening dresses. The point is deep in front and back, some are laced up the back, while others are finished with the embroidered stomacher, identical in cut and shape with that which our grandmothers wore.

In the Edinburgh Hospital Reports Dr. John Thomson publishes a study of the morbid habit of dirt eating in various parts of the world. It is his belief that the dirt has a well-defined hygienic value, and is eaten by children for medical purposes. The physical ailing which brings on the appetite for dirt is in most cases anæmia, which simply means a running down of the system. In these cases the habit might be formed from an instinctive craving for earthy salts, such as iron and lime, just as a cat or a dog, when needing a little physic, will eat a blade or so of grass. The eating of substances of various kinds which are not only indigestible, but are also devoid of any natural attractiveness of taste, is a morbid habit which has often been observed both in human beings and among certain of the lower animals.

The Trans-Mississippi and International Exposition will be held at Omaha in 1898, for the conditions of the $200,000 national appropriation have been met. In that city, it is said, $313,000 worth of stock has been placed, $40,000 additional is in sight, and such subscriptions as $10,000 from Chicago, and those of 5000 individual stockholders, make the amount set—half a million dollars—assured. Fifty directors and a working force will be appointed on the first of October.

A comparison of the teeth of dwellers in granitic and calcareous districts establishes the fact that the worst teeth of the calcareous districts are always better than the very best teeth found within the non-calcareous districts.

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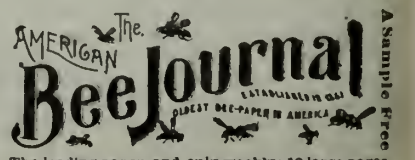

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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Oct. 7, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Tuesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	177,244	1,753,389	1,146,259
Wheat, ctls.	337,364	3,731,262	2,433,802
Barley, ctls	118,434	2,336,684	1,208,479
Oats, ctls	16,140	144,235	196,303
Corn, ctls	1,365	37,814	24,896
Rye, ctls	....	10,146	11.177
Beans, sks	27,351	112,158	80,410
Potatoes, sks	24,851	285,666	289,209
Onions, sks	2,536	45,200	41,417
Hay, tons	2,665	55,829	54,756
Wool, bales.	1,217	13,799	20,348
Hops, bales	412	2,278	2,407

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	174,320	1,464,856	767,127
Wheat, ctls	466,286	3,454,858	2,558,404
Barley, ctls	83,868	1,691,662	656,922
Oats, ctls	1,154	7,906	8,166
Corn, ctls	302	4,143	6,001
Beans, sks	1,728	56,880	45,441
Hay, bales	2,107	12,177	15,603
Wool, lbs	....	3,130,112	5,544,000
Hops, lbs	1,504	255,744	264,527
Honey, cases	20	779	3,946
Potatoes, pkgs	2,586	25,998	32,381

Grain Freights and Charters.

Market for grain charters is displaying less strength than for a month or more past, and prospects are not encouraging for any pronounced recovery in the near future. The decided improvement lately in wheat has not only put a thorough check on the attempted upward movement in freight rates, but has made it difficult for ship owners to maintain the old figures. Based on latest charters, market is not quotable over £1 8s 9d for iron ships to Cork for order to United Kingdom, Havre, Antwerp or Dunkirk. A tramp steamer arrived under charter for wheat to St. Vincent for orders at £1 7s 6d, giving option of two ports.

Charters.

British bark Invermark, 1334 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s net—chartered prior to arrival.

British ship Cromartyshire, 1462 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 11s 3d net—chartered in England.

British ship City of Benares, 1574 tons, wheat to Cork, U. K., Havre, Antwerp or Dunkirk, £1 8s 9d.

Norwegian steamer Herman Wedel Jarlesberg, 1940 tons, wheat to St. Vincent for orders, £1 6s 3d; if to two ports, £1 7s 6d—chartered prior to arrival.

British ship Rahane, 1649 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d; direct port, £1 6s 9d—chartered prior to arrival.

German bark Bertha, 1553 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d—chartered prior to arrival.

British ship Kilburn, 2490 tons, wheat to U. K., Havre, Antwerp or Dunkirk; £1 7s 6d—chartered prior to arrival.

British ship Pythomene, 1796 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 8s 9d; direct port, £1 7s 6d.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive.
1896	72,036	12,530	277,290
1895	68,899	13,119	297,084

Flour.

There is a firm tone to the market, with values tolerably steady at the advanced quotations lately established. While there is likely to be more or less irregularity in prices, and some cutting in rates in favor of the buying interest, particularly on brands not well or favorably known, there is little or no probability of as low values being again current this season as have been experienced during the past few months and the entire cereal year of 1895-96.

Superfine, lower grades	$2 40@2 50
Superfine, good to choice	2 60@2 75
Country grades, extras	3 25@3 50
Choice and extra choice	3 60@3 90
Fancy brands, jobbing	4 00@4 15
Oregon, Bakers' extra	3 10@3 50
Walla Walla, Bakers' extra	3 10@3 50

Wheat.

STOCKS OF GRAIN.

Stocks of grain in Call Board warehouses on October 1st and September 1st:

Tons—	Oct. 1st.	Sept. 1st.
Wheat	*138,612	93,486
Barley	9,514	9,365
Oats	2,293	1,323
Corn	1,241	1,690

*Including 66,608 tons at Port Costa, and 68,813 tons at Stockton.

Stocks of wheat in Call Board warehouses on 1st inst. show an increase of 45,126 tons for month of Sept. A year ago there were 257,467 tons wheat in Call Board warehouses.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	5s 2½d@5s 3d.	6s 3d@6s 3½d.
Freight rates,	—@24s.	27½@28¾s.
Local market,	$0.93¾@96¼	$1.15 @1.17½

The prices above are for spot lots of standard No. 1 California in Liverpool, and for good to choice shipping in this city.

The very rapid upward movement in wheat values, especially in the speculative field, and noted in last issue, met with a check and relapse on Friday and Saturday last, although a portion of the loss in option values was recovered before the close of business on Saturday, the final sales on latter day of December wheat being at $1.17⅝, and of May at $1.19½, which was 1 cent above lowest point of the day, but considerably below the extreme figures of two days preceding, when December wheat touched $1.24¼ and May $1.26. In spot values there was less fluctuation, they not having moved up as rapidly as Call Board prices. Choice milling wheat had not advanced beyond $1.20 as a quotable figure, with $1.17½ about the best price for No. 1 shipping delivered alongside. These were very good prices, however, as compared with values which had been ruling. A noteworthy event of the week was the announcement of two steamers being chartered to carry wheat to India. This was regarded by some as wholly improbable, and others stated it was for the purpose of bearing the market in India. Whatever the intention, it certainly has no bearish effect on the local market. If the wheat in question is taken to India it will probably be for seed purposes, our wheat being of a higher and more desirable grade. Tuesday the speculative market was again excited, and options here recorded an advance of about 4c. Wednesday there was a drop, however, in Call Board prices. Chicago declined about 2c per bushel, and options here receded about 3c per cental from best figures of previous day. Spot values were without quotable changes, but there was an unsettled feeling.

California Milling	$1 17½@1 20
Cal. No. 1 shipping, alongside	1 15 @1 17½
Oregon Valley	1 15 @1 17½
Walla Walla Blue Stem	1 10 @1 20
Walla Walla Club	1 10 @1 15

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, $1.16⅝@$1.24¼.

May, 1897, delivery, $1.20½@1.26.

Wednesday, at regular noon session of Call Board, December wheat sold at $1.18⅞@1.20¼; May, $1.20⅜@1.21½.

Barley.

The firmness noted in previous review as prevailing in the barley market has since continued to be a prominent feature. The outward movement was less active than a few weeks ago, but this was more due to lack of offerings at figures satisfactory to buyers than to absence of demand. There are no large stocks at present in this center of desirable qualities of either Chevalier, Brewing or Feed descriptions. In addition to the brisk shipping inquiry which had been lately experienced, there is now a very fair local demand. For low grade stock the inquiry is neither active nor urgent, and is confined wholly to local needs. Owing to absence of noteworthy competition on dark, foul, pinched or otherwise seriously defective barley, buyers of the same have much their own way as to prices.

Feed, No. 1 to choice	72½@75
Feed, fair to good	67½@70
Brewing, No. 1 to choice new	77½@82½
Chevalier, No. 1 to choice	95 @1 05
Chevalier, No. 2	67½@85

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, 77½ @ 80c; May, 1897, delivery, ——@——c.

Wednesday at regular noon session of the Call Board, December feed sold at 79¼c.

Oats.

Arrivals since last review have been of fair proportions, considering that the crop on the coast this season is considerably below the average. Receipts for the current week included a tolerably liberal quantity from Washington. Market is showing much the same firmness as noted in preceding review, but the strength is more especially on high-grade feed oats, these being in most urgent request and meeting with most competition in bids from buyers. Medium qualities are perhaps most difficult to place satisfactorily, as the lower grades are so close to the price of barley that they are taken on account of their relative cheapness.

White Oats, fancy feed	95 @1 00
White, good to choice	85 @ 90
White, poor to fair	77½@ 82½
Gray, common to choice	85 @ 90
Milling	87½@ 92½
Surprise, good to choice	1 00 @1 10
Black Russian	1 05 @1 15
Red	80 @ 90

Corn.

Offerings have not been so numerous nor has the pressure to realize been so urgent as a few weeks ago. This has been the result principally of stiffer views of holders, owing to improved figures on barley and oats rather than any improved demand for corn or advanced bids of buyers. But with advances in values established for other cereals, corn cannot long remain in the background.

Large White, good to choice	80 @ 82½
Large Yellow	82½@ 85
Small Yellow	85 @ 90

Rye.

For the first time in many months, a shipment of rye was made the past week to Europe, the Norwegian steamer Lyderhorn clearing on the 3rd inst. with 17,848 centals for Antwerp. More would certainly be taken on export account if it could be secured on favorable terms.

Good to choice, old	——@——
Good to choice, new	75 @ 80

Buckwheat.

Market presents a firmer tone, but with little or none offering from first hands, values are not clearly defined.

Good to choice	95 @1 00
Silverskin	1 05 @1 10

Beans.

The following review of the Eastern bean market is from the New York *Producers' Price Current*, prices given therein being per bushel of 60 pounds.

The improvement in the home jobbing trade comes so gradually that it has not given much support to the market. Exporters have been moderate buyers of some kinds but they have sought for favors and secured them in instances. The general situation has not materially changed, however. Stock has come forward with some freedom, the larger shipments being attracted by the recent advance here, but advices from the interior generally indicate confidence in the situation and an unwillingness to have fine goods sold for any less money. Most of the business of the week in choice Marrow has been at $1.30, and that figure remains the general asking rate; it has been shaded 2½@5c. in a few instances rather than miss a sale. Red Kidney have been handled about the same way; one choice lot reported sold at $1.20, more at $1.22½, and the bulk at $1.25. There have gone to all foreign ports no less than 500 bbls. this week. Most of the Medium have sold at $1.10, and there is a firm feeling on such in view of prospective shorter supplies. It has been easy to buy the best State Pea at $1.10, and nice Michigan lots are offering at $1.05@1.07½. The few lots of new have sold in with old. Exporters have paid $1 25 for White Kidney. Turtle Soup continue dull. Only a few Yellow Eye here and feeling a little stronger. The movement in California Lima is light and values weak; few jobbing sales at $1.40, but they are offering in some quantity at $1.35. Advancing prices at the west have made an upward turn here in both Scotch and green peas, and the feeling is firm.

New-crop beans of most kinds now arriving have been meeting with fair custom, mainly on local account, and at rather firm figures for offerings from the Sacramento river section, these being principally Lady Washington and Pea beans. Some Bayos and Pinks are also arriving and are commanding fairly steady rates. Receipts from southern coast included a liberal quantity of Limas, and market for these did not incline especially in favor of the selling interest.

Pea, fair to good, 100 lbs	$1 10 @1 25
Small White, good to choice	1 10 @1 20
Lady Washington	1 05 @1 15
Butter, small	1 10 @1 25
Pinks	80 @ 90
Bayos, good to choice	1 05 @1 15
Reds	1 10 @1 25
Red Kidneys	1 25 @1 50
Limas, good to choice	1 60 @1 75
Black-eye Beans	1 10 @1 25
Horse Beans	70 @ 80
Garbanzos	1 60 @1 80

Dried Peas.

Little doing in dried peas of any description, but market is moderately firm at the quotations. Eastern green dried can be laid down here close to figures current on domestic.

Green Peas, California	$1 25 @1 60
Niles Peas	1 20 @1 30

Wool.

As regards activity and other conditions, this market has been lately exceedingly fickle, swaying back and forth like a reed in the wind. Manufacturers and dealers haven been affected in their operations by the political outlook. Less than a fortnight ago the market was practically dead. For the past week or ten days there has been a fair demand for both choice Spring and free Fall, and no trouble to secure custom at the prevailing figures for all offerings of these descriptions. All heavy and defective, burry and seedy wools are still dragging.

SPRING.

Humboldt and Mendocino	10 @12
Northern California free	— @—
Northern defective	— @—
San Joaquin Foothill, good to choice	— @—
San Joaquin, 12 months	— @—
San Joaquin and Southern, 6 months	— @—
Nevada, as to condition	7 @ 9
Oregon Valley, select	9½@11
Oregon Valley, low grade	8 @ 9½

FALL.

Northern California free	5½@ 7
Northern defective	4½@ 6
Middle Counties free	6 @ 6½
Middle counties defective	5½@ 6
San Joaquin and Southern	3½@ 5

Hops.

The hop market on the Atlantic side is thus outlined by an Eastern review.

Nearly a month of the new season has passed and there is scarcely an established market for new hops. Dealers are not at all pleased with the samples of the State crop and they have been very indifferent buyers up to the present writing; in fact comparatively few purchases have been made thus far. It has also been difficult to get brewers interested; the price seems cheap enough but there is so much old stock on hand that they are slow to place orders for the new hops. A few sample shipments are going abroad, but exporters are without important buying orders. The feeling here seems to be fairly steady on choice quality, the proportion of which promises to be very light throughout the season, but there is willingness to sell other grades in about the range quoted. In quantity the State crop is believed to be about 25 per cent short of last year. Further samples from the Pacific Coast show very fine quality, and the attention of buyers is being turned that way; shipments are on the way for which dealers ask 9@10c for prime to choice. The freight from the Coast this year will be higher; in carload lots—14,000 lbs.—it is $1.50 per 100 lbs. English cable and mail advices have not changed much, but the German markets have advanced under reports of considerable injury to the crop by wet weather.

There is no perceptible change for the better in the local market, either in demand or in prices obtainable. It is difficult to effect sales of either new or old at any reasonable figure. Current quotations represent little more than asking rate. Most of the hops now coming forward are being delivered on contracts made early in the season.

Fair to choice, 1896 crop	3½@ 5½

Hay and Straw.

Hay market was not so heavily burdened with offerings as for some weeks preceding, especially with choice Wheat, and best grades of Mixed Wheat and Oat, values for these inclining slightly in sellers' favor. Of the more ordinary sorts there was enough to satisfy all inquiry at previous easy rates. Straw was in liberal supply and fully as favorable to buyers as previously quoted.

Wheat	5 00@ 9 50
Wheat and Oat	5 00@ 8 00
Oat	5 00@ 7 00
Barley	6 00@ 7 50
Clover	5 00@ 7 00
Stock Hay	4 00@ 5 00
Alfalfa, first cutting	4 00@ 5 00
Alfalfa, second cutting	5 50@ 6 50
Compressed	6 00@ 9 00
Straw, ℔ bale	25@ 35

Millstuffs.

Bran has been in tolerably liberal receipt from the north and market was without special firmness. Middlings of high grade were in light stock. Rolled barley tended against buyers.

Bran, ℔ ton	11 50@13 50
Middlings	15 00@17 50
Barley, Rolled	15 50@16 00
Cornmeal	19 50@20 00
Cracked Corn	20 00@20 50

Seeds.

There is a fair inquiry for mustard seed, especially for choice brown or red, and market for same is tolerably firm. Most of the trieste or cultivated brown is showing poor average quality this season, being foul and more or less shrunken, and in consequence will command very little, if any, more than best native or wild. Growers would find it to their decided advantage to import some fresh brown from Europe for their next seeding. Flaxseed market is slightly firmer.

	Per ctl.
Mustard, Yellow	1 50@1 75
Mustard, Trieste Seed	2 60@2 75
Mustard, Wild Brown	2 00@2 50
Flax	1 25@1 40
	Per lb.
Canary	2½@2¾
Rape	2 @2½
Hemp	3¼@3½
Alfalfa, Utah	6½@ 7

Bags and Bagging.

There is nothing new to note in the grain-bag market, business being stagnant at previously quoted range of values. Such minor transfers as are being effected in other bags and bagging are at unchanged values. There

is no movement of consequence anticipated in this line in the near future.

Grain bags, 22x36, spot	4¼@ 4½
Wool sacks, 4 lb	28 @—
Wool sacks, 3½ lb	26 @—
Gunnies	9 @—
Bean bags	4 @ 4¼
Fruit sacks, cotton	5½@ 7½

Hides, Pelts and Tallow.

The same conditions as were current at date of former review are still ruling in this market. Offerings in this department are finding custom at the prevailing rates about as rapidly as received.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	6½@—	5½@—
Medium Steers, 48 to 56 lbs	5½@ 6	4½@ 5
Light Steers, under 48 lbs	4 @ 4½	3½@ 4
Heavy Cow Hides, over 50 lbs	5 @—	4 @ 4½
Light Cow Hides, under 50 lbs	4 @ 4½	3½@ 4
Wet Salted Kip	— @ 5	— @ 4
Wet Salted Veal	5 @ 6	4½@ 5
Wet Salted Calf	6 @ 7	5½@ 6
Dry Hides, round lots, 7½@9c	9 @10	7 @ 7½
Dry Kip and Veal, 11 to 16 lbs	8 @—	6 @ 7
Dry Calf, under 4 lbs	— @15	— @10
Horse Hides, large		75@1 00
Horse Hides, medium		50@ 75
Horse Hides, small		25@ 50
Colts' Hides		—@ 25
Pelts, long wool, per skin		50 @60
Pelts, medium, per skin		40 @50
Pelts, short wool, per skin		20 @35
Pelts, shearling, per skin		10 @15
Deer Skins, best summer		20 @25
Deer Skins, good medium		15 @20
Deer Skins, thin winter		7 @ 9
Elk Hides		8 @ 9
Tallow, good quality		2½@—
Tallow, No. 2		2 @—
Goat Skins, perfect		20 @35
Goat Skins, damaged		10 @20
Kid Skins		5 @—

Honey.

With light arrivals and light local stocks there is little chance for prices to fluctuate to any material degree in favor of the buying interest. Inquiry is not active, however, and is mostly local. Prices in foreign centers are below the parity of values current here.

White Comb, 1-lb frames	10 @—
Amber Comb	7½@ 9
Extracted, White Liquid	5 @ 5½
Extracted, Light Amber	4½@ 5
Amber Colored and Candied	3¾@ 4¼
Dark Tule	2¾@ 3

Beeswax.

There is no lack of demand for choice bright, free from adulteration, such being in scanty stock. It is the exception, however, where dark and inferior meets with prompt custom.

Fair to choice, ₱ lb	24 @27

Live Stock and Meats.

Hog market has been a little more in favor of the producing interest, with arrivals and offerings on the decrease. Big and fat hogs are still receiving the preference and commanding best figures. Beef is ruling fairly steady. Mutton remains quotably as before.

Beef, 1st quality, dressed, net ₱ lb	5 @—
Beef, 2d quality	4 @ 4½
Beef, 3d quality	3½@—
Mutton—ewes, 4½@5c; wethers	5 @5¼
Hogs, hard grain fed, medium size, fat	2⅞@ 2¾
Hogs, large hard	2⅝@ 2¾
Hogs, soft and feeders	— @—
Hogs, country dressed	3½@—
Veal, small, ₱ lb	5 @ 6
Lamb, spring, ₱ lb	5½@ 6½

Poultry.

This market was in bad shape for sellers at date of last review and has since developed no special change for the better. A carload of Eastern poultry of poor average quality was landed here Monday, and two more carloads of Eastern arrived within the week under review. Taking this in connection with the warm weather, and a naturally limited demand from consumers, it is easy to see that offerings of California poultry would not as a rule sell very speedily or to good advantage. Fat Broilers and Fryers were about the only kinds sought after.

Turkeys, live hens, ₱ lb	12@ 13
Turkeys, live gobblers	12@ 13
Turkeys, large young	13@ 15
Hens, Cal., ₱ doz	3 50@5 00
Roosters, old	4 00@—
Roosters, young, (full-grown)	3 50@4 50
Fryers	2 75@3 25
Broilers, large	2 75@3 00
Broilers, small	2 25@2 75
Ducks, young, ₱ doz	3 00@4 00
Ducks, old	3 00@—
Geese, ₱ pair	1 25@—
Goslings, ₱ pair	1 25@1 75
Pigeons, Old, ₱ doz	1 25@1 50
Pigeons, Young	1 50@1 75

Butter.

Desirable qualities of fresh butter, both creamery and dairy product, have been in rather light receipt, and market for same has ruled moderately firm at a little higher range of prices than prevailed the previous week. Choice to select roll butter was in lighter supply than squares. Retailers and consumers are now running largely on packed butter. Offerings of the latter are proving more than ample for requirements, and values for pickled roll, creamery tub and dairy keg are barely steady.

Creamery extras, ₱ lb	22 @—
Creamery firsts	21 @22
Creamery seconds	20 @—
Dairy select	20 @—
Dairy seconds	15 @17
Dairy, soft and weedy	— @—
Mixed store	11 @13
Creamery in tubs	15 @16
Pickled roll	15 @16
Dairy in tubs	14 @15
Firkin, Cal., choice to select	14 @15
Firkin, common to fair	11 @12½

Cheese.

Trade is not brisk, and the market for other than strictly choice, mild-flavored new is lacking in firmness. Fancy qualities only about a month from the press are going to special custom at higher figures than are warranted as regular quotations.

California fancy flat, new	8½@ 9½
California, good to choice	7½@ 8½
California, fair to good	7 @ 8
California, "Young Americas"	8 @10

Eggs.

Choice to select, direct from ranch or hennery, continued in very light receipt, and in some instances where the quality was especially select, sold to a little better advantage than during preceding week. Defective qualities, skaky, small and dirty eggs, were in about as poor request as previously noted, prices for such stock showing little change for the better. Eastern eggs are coming forward at the rate of three to four carloads per week, and are meeting with tolerably prompt custom at prevailing rates, which are slightly firmer than a week ago.

California, select, large white and fresh	31 @—
California, select, irregular color & size	25 @29
California, good to choice store	18 @23
California, common to fair store	13 @16
Oregon, prime	18 @20
Eastern, as to section and grading	18 @23
Eastern, seconds	14 @17
Duck eggs	18 @20

Vegetables.

It is the exception where the market is not amply supplied with such varieties as are now in season. Onions ruled a little lower than previous week. Tomatoes were in decreased receipt, but there was no material hardening in values. The green corn now coming forward includes very little of desirable quality.

Asparagus, Fancy, ₱ box	—@— —
Asparagus, common to good, ₱ box	—@— —
Beans, String, ₱ sack	—@— —
Beans, Wax, ₱ lb	—@— —
Beans, Garden, ₱ lb	2@ 3
Beans, Lima, ₱ lb	1@ 2
Cabbage, choice garden, ₱ 100	50@ 60
Cauliflower, ₱ doz	40@ 50
Corn, Alameda Sweet, ₱ crate	75@ 1 25
Corn, Berkeley, ₱ crate	40@ 65
Corn, Green, ₱ sack	25@ 75
Corn, Vacaville and Winters, ₱ crate	—@— —
Cucumbers, Alameda, large box	15@ 25
Egg Plant, ₱ box	25@ 40
Garlic, ₱ lb	1@ 2
Okra, Green, ₱ box	25@ 40
Onions, Red, ₱ cental	—@ —
Onions, Yellow, good to choice	30@ 35
Peas, Green, ₱ sack	75@ 1 25
Peppers, Green Chile, ₱ box	25@ 50
Pepper, Bell, ₱ large box	40@ 50
Pickles, No. 1, ₱ 100 lbs	—@— —
Pickles, No. 2, ₱ 100 lbs	—@— —
Rhubarb, ₱ box	—@ —
Squash, Bay, ₱ large box	20@ 35
Tomatoes, River, per large box	—@ —
Tomatoes, Bay, ₱ box	10@ 25

Potatoes.

Choice are arriving very sparingly and are in good request, commanding slightly higher figures than had been current at any previous date this season. Select Salinas Burbanks were not obtainable under 90c per cental. Ordinary qualities from Sacramento river section remained plentiful and in buyers' favor. Sweet potatoes brought about same figures as last quoted, but only for choice to select was the market firm.

IN SACKS.

Early Rose, River, ₱ cental	20@ 30
Peerless, River	—@ —
Reds, River	35@ 50
Garnet Chile, Mission	40@ 50
Burbanks, River	20@ 35
Burbanks, Salinas	60@1 00
Sweet Potatoes	75@1 25

The Fruit Market.

Fresh Fruits.

As the fall season advances the variety of fresh fruits on market is diminishing, and it is the exception where there is a surfeit of any sort at present. Where offerings prove excessive, they are confined to inferior qualities. Of choice to select, more could be placed at present of most varieties than are obtainable.

Apples are coming into more general favor, with other varieties going out, but there are exceedingly few coming forward which can be termed choice to select. Fine apples, free from worms or blemish of any sort, seem to be getting scarcer each succeeding season. Such are sought after and are being favored with a firm market. Common to medium qualities are offering freely and at generally easy figures.

Peaches are showing greatly decreased receipt, and will not much longer be on market in quotable quantity. Offerings are mostly fair to medium quality. Sales have been mainly within same range of prices last quoted, with tendency to more firmness on best grades.

Pears are not in heavy stock. Bartletts are practically out. Winter Nelis are not yet in. Of the various varieties coming between, there are few which stand out alone on account of superiority, and none which can be said to be in great favor with consumers. Market for common varieties is quiet and easy, and of choice to fancy there are so few on market that they are hardly quotable.

Figs of second crop are in scanty stock and do not meet with much demand. Pomegranates are on market in sufficient quantity to justify quotations, but inquiry is slow and high or stiff prices are not obtainable. The fruit appears to be more in favor with the Chinese than with any other class.

Melons of the several varieties now in market have been favored with an improved demand this week and have brought firmer prices, the weather much of the time having been favorable for consumers taking hold freely.

Berries of all sorts are in slim receipt, but quotable values are without appreciable change. The demand is mainly of an indifferent character, buyers not caring as a rule to operate at other than low figures.

Grapes do not make as extensive a display as during recent seasons, neither table nor wine stocks. Table grapes in boxes and crates have been selling at steady prices, most varieties keeping within range last quoted. Wine grapes tended a little more against sellers than previously quoted, the easier tone being more due to the fact that offerings were mainly under choice than to lack of demand.

Apples, fancy, 4-tier, per box	1 00@ 1 25
Apples, good to choice, 50-lb box	75@ 90
Apples, fair to good, 50-lb box	50@ 75
Apples, common, ₱ 50-lb box	25@ 40
Crabapples, ₱ box	—@ —
Figs, Black, ₱ 2-tier 15-lb box	50@ 75
Figs, Black, ₱ 1-tier box	25@ 50
Figs, White, ₱ box	—@ —
Nectarines, Red, ₱ box	—@ —
Nectarines, White, ₱ box	—@ —
Prunes, Falkenburg, ₱ crate	—@ —
Prunes, Hungarian, ₱ box	—@ —
Prunes, German, ₱ 50-lb box	—@ —
Peaches, fancy wrapped, ₱ box	60@ 75
Peaches, Freestone, ₱ ton	—@— —
Peaches, good to choice, ₱ box	35@ 60
Peaches, Cling, per ton	—@— —
Pears, Bartlett, ₱ ton	—@— —
Pears, Bartlett, No. 1, per box	75@ 1 00
Pears, Bartlett, No. 2, per box	50@ 75
Pears, other kinds, ₱ box	20@ 60
Plums, choice, large, ₱ box	50@ 75
Plums, other kinds, lb box	25@ 50
Plums, ₱ crate	40@ 85
Pomegranates, ₱ box	75@ 90
Quinces, ₱ box	40@ 65
Nutmeg melons, ₱ box	35@ 60
Watermelons, per 100	4 00@8 00
Cantaloupes, per crate	75@ 1 50

Berries.

Blackberries, ₱ chest	3 00@ 4 00
Currants, Red, ₱ chest	— —@— —
Raspberries, ₱ chest	3 50@ 5 00
Strawberries, Longworth, ₱ chest	— —@— —
Strawberries, Large, ₱ chest	2 50@ 4 00
Whortleberries, ₱ lb	8@ 10

Grapes.

Black Hamburg, ₱ box	30@ 45
Fontainebleau, Cal., per crate	35@ 50
Fontainebleau, Cal., per box	30@ 40
Isabella, ₱ box	50@ 75
Muscat, per box	30@ 50
Muscat, ₱ crate	40@ 60
Muscat, ₱ ton	14 00@17 00
Rose of Peru, ₱ box	30@ 45
Rose of Peru, ₱ crate	40@ 50
Royal Isabella, ₱ crate	1 00@ 1 25
Seedless Sultana, ₱ box	—@ —
Tokay, ₱ crate	40@ 75
Zinfandel, ₱ ton	20 00@25 00

Dried Fruit.

Advices by mail give the following concerning the Eastern dried fruit market:

Receipts of new evaporated apples have increased rather slowly, and while the buying on both foreign and home account has been very moderate, stock has kept cleaned up fairly, sellers easing off a little in price when necessity required it. The proportion of fancy fruit has been small and such is going mainly at 5½c, here and there a peddling sale of exceptional quality a fraction higher. Jobbing sales of prime are at 4½c and of choice at about 5c, but they are offering in round lots for early shipment at least ¼c less, possibly lower. Several lots of damp apples have been received, some of which have soured since arrival. There is absolutely no demand for that class of fruit and it will be well for shippers to understand early in the season that New York does not want, and cannot handle, damp fruit. Sound dry fruit will be too plenty and too cheap to get any one interested in lots that are not certain to keep reasonably well. Old evaporated very dull and largely nominal. A few packages of new N. C. sun-dried sliced apples have arrived and sold at about 3@3½c. Old sun-dried entirely neglected. Chops have weakened a little; no spot sales to speak of, but a car of primes sold for future delivery at 1⅝c. Receivers ask 1¾c for cores and skins on the spot, but they have sold for later shipment at $1.05. Raspberries offering with some freedom and recent sales of evaporated have been at 14c; only a few Southern sun-dried here, but the berries are small and broken and not wanted. Huckleberries held at 7@7½c, but sell slowly. Blackberries dull at 4c. Exporters have been buying apricots quite freely and the activity of trade has made a strong market. California peaches beginning to arrive more freely; sales range from 5@5½c for prime up to about 8c for fancy in bags.

The healthy tone last noted as prevailing in the local dried fruit market has since continued, with firmness still more pronounced. Such changes as are made in quotations are without exception to higher figures. A very good demand is being experienced on foreign, Eastern and local account.

Apricots are now offering only in limited quantities, with market firm at the advanced quotations. For choice to select the demand is particularly good, and holders of this grade of apricots have no difficulty in realizing remunerative prices.

Peaches of high grade are being eagerly sought after, and are more easily sold than purchased at the current quotations. Bartlett pears of choice to fancy quality are also in good request for shipment and readily command comparatively good figures.

Prunes are in good demand both for spot and forward delivery, and values for this fruit show further hardening. Market is quotably higher for the four sizes and is especially strong for 40-50s, buyers now naming on the latter 5¼@5½c.

Apples are not offering extensively, either evaporated or sun-dried. Values are ruling steady and no trouble is experienced in securing buyers for all desirable qualities at the prevailing rates, demand being good.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	7½@ 8
Apricots, Royal, fancy	9 @10
Apricots, Moorpark	11 @13
Apples, in boxes	5 @ 5½
Nectarines, White	4½@ 5
Nectarines, Red	3½@ 4
Peaches, unpeeled, prime to choice	3½@ 4½
Peaches, unpeeled, choice to fancy	4½@ 7
Peaches, peeled, in boxes	9 @12
Pears, peeled and sliced	4 @ —
Pears, unpeeled Bartletts, halved, fancy	6 @ —
Pears, halved, unpeeled Bartletts	4 @ 5
Pears, quartered, unpeeled Bartletts	3 @ 4
Plums, pitted	3½@ 5
Prunes, in sacks, 4 sizes	3¼@ 3½
Prunes, in sacks, small sizes	2 @ 2½

COMMON SUN-DRIED.

Apricots, ordinary	5½@ 7
Apples, sliced	2½@ 3
Apples, quartered	2½@ 3
Figs, Black	2½@ 3
Figs, White	3 @ 4
Peaches, unpeeled	3 @ 3½
Plums, unpitted	1½@ 2

Raisins.

There is a fairly active movement in raisins and values are being well maintained. Quotable rates for two and three-crown loose Muscatel have been restored to former figures. The weather in the prominent raisin districts has been most of the time since last review all that could be desired for raisin curing. Prospects now appear favorable for the bulk of the crop being marketed before the midwinter holidays.

FIRST HALF OCTOBER SHIPMENTS.

Imperial Clusters, per box	2 50 @ —
Dehesa Clusters, per box	1 75@ 2 25
Fancy Clusters, per box	1 40@ 1 50
Boxes, London layers, 20-lb box	1 05@ 1 10

(Usual advance for fractions.)

Loose Muscatel, 4-crown, ₱ lb	4 @4½
Loose Muscatel, 3-crown	3¼@ —
Loose Muscatel, 2-crown	2¾@ —
Sultanas	4 @ —
Seedless Muscatel	2½@3½
Dried Grapes	2½@3

Citrus Fruit.

Lemons are on market in sufficient quantity for all immediate requirements. While prices

BARB . WIRE.

It will pay you to get our prices on this article; also **Wire Netting** and **Wire Nails**. Our "WEEKLY SPECIAL" this week has the following:
Boneless Codfish, the finest in the market, 30-lb. box for $1.55
Tomatoes, new pack, large tins, per doz ..... .65
Lard, pure genuine hog product, 10-lb. pail for ..... .70
Also other bargains.

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cannot be termed firm, they are being tolerably well sustained on the best grades. Common and poorly cured find slow custom at low figures. Limes were offered at last quoted range of prices. Grape fruit is arriving and in a small way commands good prices.

Oranges—Wash. Navels, ℔ box	— —@— —
Cal. Mediterranean Sweet	— —@— —
Cal. Seedlings	— —@— —
Cal. Valencias	— —@— —
Grape Fruit, ℔ case	6 00@ 7 50
Lemons—Cal., select, ℔ box	2 50@ 3 00
Cal., good to choice	1 50@ 2 00
Cal., common to good	1 00@ 1 50
Limes—Mexican, ℔ box	5 00@ 5 50
Cal., small box	1 00@ 1 25

Nuts.

Almonds of new crop are moving freely into distributing channels, with prospects of this season's yield being disposed of at an early date. Market is firm for paper shells, soft shells and standards at the ruling quotations. For hard shells values are not yet well defined. Market for white walnuts shows firmness, although not very many of present crop have yet arrived. A large portion of the yield will be forwarded direct from producing points to Eastern centers.

California Almonds, paper shell	9½@10
California Almonds, soft shell	7½@ 8
California Almonds, standard	6½@ 7
California Almonds, hard shell	5 @ 5½
Walnuts White, paper shell	9 @10
Walnuts White, soft shell	8 @ 8½
Walnuts White, Cal., hard shell	6½@ 7
Chestnuts, Cal. Italian	10 @12½
Peanuts, Cal., fair to prime	4 @ 5
Peanuts, Eastern hand-picked	5 @ 6
Pine Nuts	12½@15

California Fruit Sales.

CHICAGO, September 30.—California fruit sold to-day as follows: Grapes—Bishop, $1.25; Tokay, 85c@$1.10 (some in bad order sold for less); Muscat, 70@85c; Cornichon, $1.05. Pears—Bartlett, $2.10@2.15. Peaches, 60@65c.

NEW YORK, September 30.—California fruit sold to-day as follows: Pears—Bartlett, $3.45 per box. Grapes—Tokays, 85c@$1 10, single crates; Muscats, 85c. Peaches—Salway, 80c@$1.05 per box; Levi Clings, 70@80c; Georgia Clings, 55@85c.

NEW YORK, October 1.—California fruit sold to-day as follows: Grapes—Tokay, $1.65 double crate and 65c@$1.45 single; assorted, 60c@$1.25; Muscats, 90c@$1.15. Peaches—Salways. 75@85c per box; Georgia Clings, 50@70c.

CHICAGO, October 1.—California fruit sold to day as follows: Pears—Bartlett, $2.30. Grapes—Tokays, 75c@$1 15 (some in bad order brought less); Muscats, 45@95c.

NEW YORK, October 2.—California fruit sold today as follows: Grapes—Tokay, 75c@$1.30 (some in bad order brought lower prices); Muscat, 80c@$1.15; assorted, 95c@$1.20; Cornichon, 75c@$1.40. Pears—Beurre Deil, $1 50; Winter Nelis, $1.50@1 85; Lawrence, $1 55.

CHICAGO, October 2—California fruit sold today as follows: Pears—Bartlett, $1.85@2.35 per box. Grapes—Tokay, $1.15@$.50 per double crate and 60@65c; Cornichons, 90c; Emperors, 65@70c. Peaches—Four-in-hand, $1.15 per box; Salway, 75c; Georgia Cling, 45@55c.

CHICAGO, October 5.—California fruit sold to-day as follows: Grapes—Tokay, 75c@$1.15; Morocco, 75c@$1.30; Muscat, 80c@$1.10: Cornichon, $1.05; some grapes in had condition sold lower. Pears—Bartletts, $2.30. Peaches—Salway, 75@8 c.

NEW YORK, October 5.—California fruit sold today as follows: Pears—Bartlett, $2 per box and $1.75 per half-box. Grapes—Black Morocco, $1.20@1.45 per single crate; assorted, 75c@$1.45; Tokay, 60c@$1.40; Muscat, 70c@$1. Peaches—Salway, $1@1.30, and a few boxes at 65@75c; Georgia Clings, 65@75c.

CHICAGO, October 6.—California fruit sold to-day as follows: Pears—Bartletts, $2 70 per box and $1.25@1.30 per half box; Winter Nelis, $1.50 per box; Winter Seckle, $1 per half box and 45@$1 per single crate. Grapes—Muscats, 50@90c. Peaches, 45@80c per box.

NEW YORK, October 6.—California fruit sold today as follows: Grapes—Tokay, $1.37@2.40 per crate and 60c@$1.60 per half crate; Muscats, 60c@$1.10. Plums—Coe's Late Red, 90c@$1.10. Pears—Anjou, $1.95; Clairgeau, $1.35@1.65; Comice, $1.30@2.25; Beurre Gros, $1.40@1.55.

FOR many years, during the time that rag paper or straw paper was the standard, Great Britain stood at the head of the world's producers and manufactured not only sufficient for the home demand, but also had a surplus left over for export, whereas the American product of paper was insufficient for home demand. With the discovery of the utility of wood pulp for paper making and the process whereby the cost of paper has been reduced, the United States has been steadily pushing ahead and are now in advance of Great Britain. Germany follows Great Britain closely.

CANADA proposes to erect a suitable monument to John and Sebastian Cabot at Bristol, England, to commemorate the voyage which these navigators took in 1497, which ended in the discovery of the Canadian coast.

A VERY INTERESTING FEATURE of the live stock department at the recent State Fair at Sacramento was the exhibit of Mr. Thos. Waite of Perkins, Sacramento county. His pens contained thirty head of Poland-Chinas, and fifteen head of Berkshires. He made three entries of Berkshires in competition, taking two premiums, and of nine entries of Poland-Chinas he took eight premiums. In the lot there was one young boar "Model," sire "Ideal Black," purchased at $1000. The sire of Model's dam was Guy Wilkes that sold for $950.

Patrons of Husbandry.

State Grange in Session.

The twenty-fourth annual meeting of the California State Grange convened at Sacramento on Tuesday of this week, Worthy Master Greer and most of the State officers being present. The first day was given up to the reading of official reports, and in the evening a reception was held in the Crocker Art Gallery. On Wednesday there was an excursion to Folsom, under the auspices of the local committee of arrangements, and on Wednesday evening Governor Budd is to address an open session of the Grange. The RURAL of next week will contain a full report of the session.

THE Commissioner of Patents, in his report on the business of the Patent Office for the fiscal year ending June 30 last, shows that 48,105 applications and caveats had been received, 24,585 patents granted and trade-marks, labels and prints registered, and 15,580 patents withheld and patents expired. Receipts from all sources during the year were $1,307,090 and expenditures $1,097,368, leaving a surplus of $209,721. The balance in the Treasury of the United States on account of the patent fund on June 30, 1895, was $4,566,757, making a total, with the 1896 surplus, of $4,776,479. Applications awaiting action number 8943.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING SEPTEMBER 22, 1896.

568,152.—SLIDING DOOR—H. C. Ashenfelter, Spokane, Wash.
568,013.—CIRCUIT CLOSER—T. R. Barney, S F.
567,977.—CENTER BIT—T. F. Hagerty, S F.
568,114.—BOUQUET HOLDER—J. M. Johnston, Los Angeles, Cal.
568,087.—WRENCH—B. E Keen, Los Angeles, Cal.
568,141.—TRACK JACK—P. Larkin, San Jacinto, Cal.
568,037.—BOTTLE—W. H. McDonald, Redlands, Cal.
568,094.—GANG PLOW—S. H. Miller, Stockton, Cal.
568,318.—WATER PIPES—J. Morhard, S. F.
568,095—THERAPEUTIC ELECTRODE—J. S. Muir, Stockton, Cal.
567,992.—BRAKE SHOE—W. Myers, Ruhy Valley, Cal.
568,269.—FLOWER HOLDER—A. J. O'Neal, S. F.
568,271.—SKYLIGHT RAISER—G. M. Parsons, Carson, Nev.
568,100.—PLOW AND SEEDER—J. Porteous, Fresno, Cal.
568,150.—POISON DROPPER—W. Williams, Wilhur, Wash.

NOTE.—Copies of U. S. and Foreign patents furnished hy Dewey & Co. in the shortest time possible (hy mail for telegraphic order). American and Foreign patents ohtained, and general patent business for Pacific Coast inventors transacted with perfect security, at reasonable rates, and in the shortest possible time.

AT the Blue Hill observatory near Boston, Mass., on August 20, Charles H. Lamson, using a cellular or box kite, built somewhat on the Hargraves model, succeeded in lifting a weight of 150 pounds, designed to represent a man, to a height, as reported, of 600 feet. The kite was started from the ground with a length of 400 feet of rope paid out. It then, as released, rose steadily without any jerking until, as the altitude of 600 feet was reached, the rope parted. The kite floated off about half a mile down the wind, and is said to have reached the surface so gently that, had a real man been carried by it, he would not have been injured. The kite includes a number of features that distinguish it from any other. The relations of the cells to each other can be changed by manipulating a lever, and if a passenger were carried by it, this and other means enable him to materially change the course and the position of the kite and also to direct its descent.

ALTHOUGH the aluminum industry is not a large one in the sense that the iron industry is, it is growing very rapidly. The output of the United States in 1894 was 550,000 pounds, and in 1895 it was about 850,000 pounds.

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in all the many shows in which it has participated, there must be something in the superiority claims of the RELIABLE INCUBATOR Self regulating, entirely automatic, you put in the eggs, the Reliable does the rest. All about this and many things of value to the poultry man in our new book. Send 10 cts. for it.
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Position Wanted.

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Any person prepared to go into the poultry business on a large scale can find a good opportunity by addressing
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The Baden Farm Herd was established in 1867, with cows from then recent importations of the hest English Milking Shorthorns, since which time improvement in dairy qualities has been steadily kept in view.

Breeders' Directory.

Six lines or less in this directory at 50c per line per month.

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F. H. BURKE, 626 Market St., S. F. Al Prize Holsteins; Grade Milch Cows. Fine Pigs.

JOHN SPARKS, Reno, Nev. Breeder Thoroughhred Regis'd Herefords. Bulls & Heifers for sale.

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P. H. MURPHY, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle, Poland-China & Berkshire Hogs

BULLS—Devons and Shorthorns. All pure hred and registered. Fine individuals. At prices to suit the times either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

PETER SAXE & SON, Lick House, S. F., Cal. Importers and Breeders. for past 21 years, of every variety of Cattle, Horses, Sheep and Hogs. Correspondence solicited.

Poultry.

PARKVIEW POULTRY FARM, F. P. Lowell, Prop., Sacramento, Cal., offers for sale the following high-hred fowls: Trio Buff Leghorns, 1st prize cock and 2nd prize hen, $10. Trio Andalusians, $5. Pen, 1 cock and 4 hens of Black Spanish, $15. Fine pen of "Hawkins" Plymouth Rocks, $20. Fine hreeding pen White Leghorns, $10 Breeding pen of "Forsyth" Brown Leghorns, $10. Also Plymouth Rock, Golden and Silver Wyandottes and Langshan cockerels for sale at reasonable prices.

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WILLIAM NILES & CO., Los Angeles, Cal. Nearly all varieties of Poultry, Dairy Cattle and Hogs.

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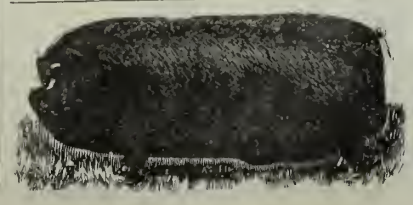

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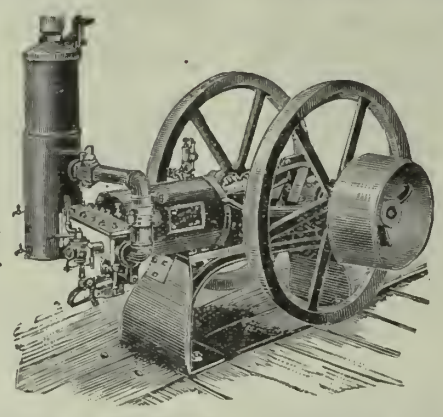

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Will furnish power for one-tenth of a cent per horse power per hour. It is the cheapest power ever produced, as shown in the following table, and which is based upon a test of ten hours' run with one of our five-horse power Gasoline Engines, using gasoline (74°), coal gas, common domestic coal oil, crude petroleum, asphaltum base, crude petroleum, paraffine base, as follows:

Coal Gas, ten hours' run, 1000 feet	$2 00
Gasoline (74 deg.), ten hours' run, 8¾ gallons @ 14c.	1 25
Coal Oil, ten hours' run, 7½ gallons @ 10c.	75
Crude Petroleum, asphaltum base, 16 gallons @ 3c	48
Crude Petroleum (36 deg.), paraffine base, 13 gallons @ 5c	65

On the crude petroleum with asphaltum base we had an over-product of 7 gallons of asphaltum; the market price is 3 cents per gallon=21 cents. This deducted from the first cost of the crude petroleum for ten hours' run leaves a net balance of 27 cents. And from the crude oil with a paraffine base we had an over-product of 3 gallons of good lubricating oil, which we consider equal to any we have ever used, but will estimate its value conservatively at 20 cents per gallon, making 60 cents; this deducted from the first cost of the crude oil leaves a balance of 5 cents, total cost of running ten hours.

It will be readily seen that the operation of these Engines with crude petroleum reduces the cost of operation to aminimum. Crude petroleum with paraffine base at 1-10c per horse power per hour; on crude petroleum, asphaltum base, ¼c per horse power per hour; on domestic coal oil, 1½c per horse power per hour; and on gasoline, 2½c per horse power per hour.

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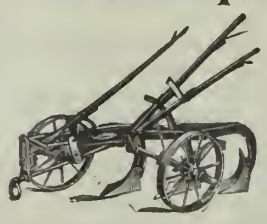

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Cat. No.	Size Axle.	Style Axle.	Width Tire.	Capacity.
7	47	2⅛	Hollow Steel..	2 in.	2500 lbs.
5	47	2⅛	"	3 in.	2500 lbs.
4	48	2⅜	"	2½ in.	4000 lbs.
2	50	2⅜	"	4 in.	6500 lbs.
6	38	1¾	Concord Steel.	3 in.	4000 lbs.
1	40	2	"	2½ in.	6000 lbs.
1	40	2	"	3 in.	6000 lbs.
8	18	3¼	Steel Skein...	2 in.	4000 lbs.
2	18	3¼	"	2½ in.	4000 lbs.
8	19	3½	"	2¼ in.	5000 lbs.
4	19	3½	"	3 in.	5000 lbs.

All these wagons are fresh stock, fully guaranteed, and prices can't be duplicated.

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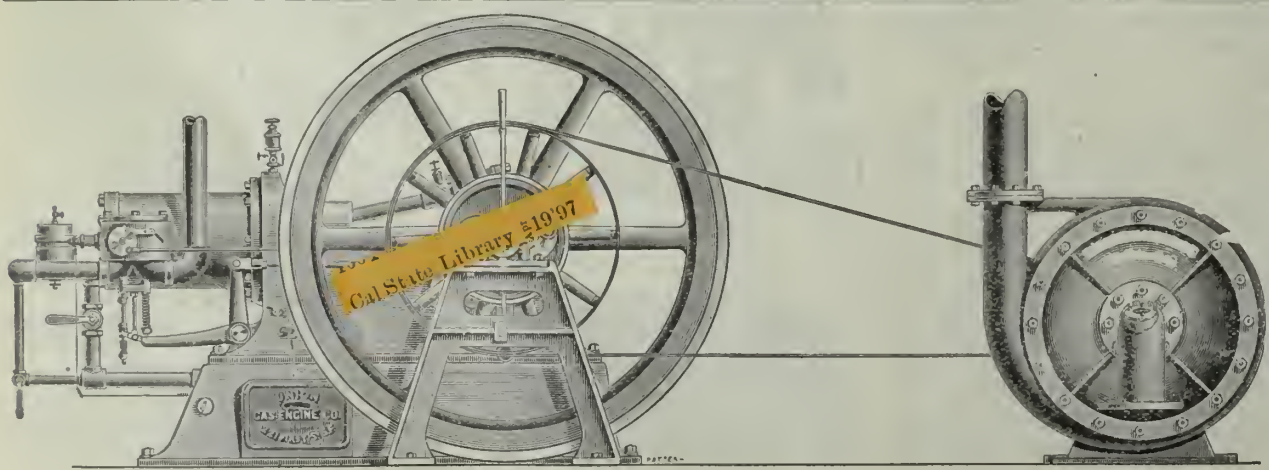

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THE
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Vol. LII. No. 16. SAN FRANCISCO, SATURDAY, OCTOBER 17, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.

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CALIFORNIA STATE LIBRARY

Wide Variation in the Eucalyptus Species.

The great differences within the species in the case of several of the eucalypts puzzle the botanist in his efforts at classification, and it is not surprising that the ordinary observer becomes bewildered in his undertaking to fix typical forms in his mind. One who reads Abbot Kinney's excellent work on "Eucalyptus" and notes how hard Mr. Kinney and Prof. McClatchy have tried to arrange relationships, will not wonder at his own confusion. We choose for illustration this week two varieties of species which we have previously shown, and, by turning back on his file, the reader can note for himself the wide differences between this week's figures and the earlier ones of the same species.

The first picture shows the *regnans* variety of *Eucalyptus amygdalina*. It seems to be, as the word signifies, a ruling variety of its species. It is also in some respects the ruling eucalypt of them all, for Mr. Kinney says it is the variety which has given the species *Amygdalina* its record as the tallest eucalyptus in the world, and, according to some authorities, the tallest tree of the world. The tree has rather dense foliage and is bright green in its young growth. The leaves are thin and broader than other varieties of its species. The branches are drooping and the flowers and fruits small. Like the other varieties of the species *amygdalina*, it has a characteristic odor of peppermint and eucalyptol, and, being *regnans*, it has naturally a stronger perfume as well as broader leaves than the others. The bark is rough and persistent, but neither like the true stringy barks nor the iron barks. Mr. Kinney states that this sort of *amygdalina* is not so good a grower in our interior valleys as is the narrow-leaved variety, but good species are to be seen at Pasadena and at the Santa Monica forestry station.

The second engraving shows a still wider variation within the species, in the case of *Eucalyptus polyanthema*. This variety is very striking with its broadly oval leaves instead of the long narrow leaves which most eucalypts exhibit. In the haste of finishing his manuscript, Mr. Kinney neglected to expound the variation in *polyanthema* which his plates show, and he has kindly given us a note which our readers who have the book should attach to the description of this species, as follows: "The two illustrations show forms of *E. polyanthema* considerably separated in the form and color of the foliage. In color both forms are grey. The narrower leaf form is a dull grey with comparatively little of the silvery appearance. The oval leaf form is generally a beautiful soft silver color with the long, enduring parmicles of buds still more silvery. We have intermediate forms and we still are without certain information as to whether the seeds of each form will perpetuate its own type."

The sporting habit of the eucalyptus seems to encourage plant propagators to turn its disposition to their own advantage in the origination of new varieties. It is only about a quarter of a century since the genus has been widely scattered through the semi-tropical regions of the world, and it is very likely that the horticulturists of the future will do lifetimes of work and write volumes of information on the different species of the genus. The coming Californian has a grand opportunity for horticultural and botanical studies in this direction.

EUCALYPTUS AMYGDALINA: VARIETY REGNANS.

EUCALYPTUS POLYANTHEMA: OVAL LEAFED VARIETY.

Mr. J. H. Reed has reported to the Riverside Horticultural Club that during an examination of the condition of orange groves along the route of travel by way of Mound City, Redlands, Highlands, Ontario, Pomona, Chino and Corona, they were found to be in the ratio of eight orchards excellent, eight good, eleven fair and five indifferent. In East Riverside there were three excellent, two good, two fair and two indifferent.

There is nothing doing in canned fruits just at present, but the Cutting Packing Co.'s (October 15th) circular shows that there ought to be something in the future, if a small pack of California fruit is to have any influence.

PACIFIC RURAL PRESS.

Office, No. 220 Market St.; Elevator, No. 12 Front St., San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Any subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

Our latest forms go to press Wednesday evening.

Registered at S. F. Postoffice as second-class mail matter.

ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, October 17, 1896.

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The Week.

The following data for the week ending 5 A. M. Wednesday, Oct. 14, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Rainfall for the Week	Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	.32	1.14	3.27	2.61	70	42
Red Bluff	....	1.17	1.92	1.34	88	52
Sacramento	....	.52	1.28	.78	*	50
San Francisco	.01	.66	.78	.80	80	48
Fresno	....	.26	.07	.50	92	48
San Luis Obispo	....	.24	T	*	86	42
Los Angeles	....	.07	T	.52	84	50
San Diego	....	.06	T	.45	74	54
Yuma	.02	.52	.01	.76	100	56

* Indicates no record.

Heavy Shipments by Sea of California Produce.

During the month of September more grain-laden ships passed out through the Golden Gate than in any other month in the history of the port. Forty-two ships carried away 2,113,172 centals of wheat valued at $2,154,903; 110,429 barrels of flour valued at $364,527, and 791,925 centals of barley valued at $654,488. Some immense cargoes of canned goods, fruit and salmon, have been shipped of late. During the past two months several cargoes of this character valued at upwards of a quarter of a million dollars each have been taken away. The largest went in the German ship Peru, which sailed October 4th. It was valued at over $300,000. Most of these canned goods go to Liverpool and London.

Seasonal Agricultural Statistics.

A dispatch from Washington, 10th inst., reports that returns to the Agricultural Department for October make the general condition of corn 90 per cent, against 91 for the month of September. The returns of the yield per acre of all wheat indicate a production of 11.9 bushels, which is .6 of a bushel less than the preliminary estimate for 1895.

The rate of yield of the most important States is as follows: New York 15, Pennsylvania 14, Ohio 9, Michigan 12, Indiana 9, Illinois 13.6; Wisconsin 14, Minnesota 14, Iowa 15, Missouri 10.7, Kansas 11, Nebraska 14, South Dakota 10.5, North Dakota 10, Washington 16, Oregon 15.5, California 14.5. The indicated quality for the country at large is 84.4 per cent, against 85.7 last year.

The averages of a few selected States are: New York 93, Pennsylvania 84, Kentucky 74, Ohio 67, Michigan 89, Indiana 71, Illinois 80, Wisconsin 80, Minnesota 89, Iowa 83, Missouri 80, Kansas 81, Nebraska 84, South Dakota 90, North Dakota 87, Washington 85, Oregon 87, California 94.

The wheat crop is generally short in quantity and poor in quality, owing to unfavorable weather, drought at seeding time, deficiency of snow protection and excessive rains after harvest, producing scanty growth, shriveled grains and rust. The worst is in the great region from Ohio to Kansas and adjoining States. Crops are fairly good in the East.

The preliminary estimate of the yield of oats is 24.3 bushels per acre, against 29.6 a year ago; quality 74.9, ranging from 55 in Kansas to 104 in Montana.

The average yield per acre of rye is 13.3, of barley 25.6. The condition of buckwheat is 86 per cent, Irish potatoes 81.7.

Better Prices for Raisins.

A Fresno dispatch says: Beginning last Friday there has been an urgent inquiry for raisins in the sweat box, both by commission packers and co-operative concerns. The short crop and bareness of the Eastern market have caused raisins to jump a quarter of a cent a pound in three days, and cash is freely offered at the rate of 3 cents a pound for all raisins that can be procured. It is predicted that the end of the week will see the price 3½ cents a pound, the best in many years. Shipments to date are 6,000,000 pounds, against 16,000,000 last year.

The Markets are Booming.

In the commercial world the trend of values and conditions since last issue have been, on the whole, favorable to the producing interest, as will be seen by a perusal of our market review. The dried fruit market has shown the least activity, but values are firmer than at any previous date this season, and bid fair to be maintained. All cereals are tending more or less in favor of the seller. Wheat has been ruling particularly strong. A large steamer load of wheat went afloat this week for India. Exports from California for past six months have included cargoes of wheat to Europe, Australia, Africa and Asia.

Co-operative Fruit Company at Placerville Fails.

A dispatch (13th inst.) from Placerville says: The Co-operative Fruit Company of Newcastle, Placer county, has been compelled to close its doors and file a petition in insolvency. This was the largest local fruit shipping concern in the northern end of central California. Its business has extended from the Pacific to the Atlantic and from Canada to Mexico. Late frosts and untimely rains are given as the causes for the failure. Crops were not sufficiently large to insure a profit. The firm's liabilities are $77,599, and the assets $69,259. The fruit-growers of the district seemed to have suffered less than others, only $11,756 being due them. The indebtedness in the East amounts to $40,000.

Poisoned by a Sick Horse.

A San Diego dispatch says: Mrs. Robert Starks, wife of a rancher living between Poway and Olivenhain, thirty miles north of San Diego, was standing beside a team of horses a week ago when one of the animals sneezed, blowing saliva into Mrs. Starks' face and upon her hands. She wiped the spots off and washed her hands and face and thought nothing more about it. Two days later she began to suffer fearful agony, with every symptom indicating poison by glanders. The animal did not show signs of the disease, but as soon as the doctors pronounced Mrs. Starks' malady as glanders the animal was killed and burned. Mrs. Starks' sufferings grew worse constantly, and, though the best of medical assistance was given, she could not be relieved until death came Saturday. The doctors said there was no doubt as to the affection, as every symptom was present. Mrs. Starks was only 35 years of age and in perfect health. During the last two days of her sufferings she repeatedly asked for an opiate that world bring death to her relief. The glands of her lower jaw were frightfully swollen, and there was a continuous discharge of poisonous mucous matter very dangerous to her attendants.

Pith of the Week's News.

EX-GOVERNOR LEVI K. FULLER of Vermont died at his home on the 10th inst.

GEORGE DU MAURIER, the celebrated humorist and artist of London *Punch*, made widely famous by the authorship of "Trilby," died at his home in London on the 8th inst.

SPEAKER REED is on his way to the West and is booked for a series of speeches in the Mississippi valley. It is said that he will come on to the Pacific coast and will make four speeches in California.

EDWARD WHITE BENSON, Archbishop of Canterbury, the official head of the English church, died on Sunday last in Hawarden church while kneeling in Mr. Gladstone's pew. He was visiting Mr. Gladstone at the time.

DANIEL H. WILSON, an orchardist, living near the Hatch ranch, near Suisun, was murdered by unknown parties in his own house on the night of the 9th inst. It appears that he was called to the door early in the evening and shot down.

AT Oakdale, on the 9th inst., the dwelling of Mr. James Gardiner was burned to the ground. A young child was burned to death. The father has become a maniac from grief and the mother is in a condition but little removed from insanity.

THE mines at Leadville, Colo., are rapidly filling up with non-union workmen brought in from far and near and set to work under military protection. It is believed that the troops will be held in control of the situation until the strikers have either surrendered or dispersed.

THE second great storm of the season visited the Atlantic coast on Sunday the 11th inst. The damage is much less serious than that caused by the storm two weeks ago. Many ships, however, dragged their anchors in all the Atlantic ports and the loss of life among the sailors is very considerable.

MRS. ELLEN C. SARGENT, president, and Mrs. Mary S. Sperry, treasurer, of the State Suffrage Association, have just issued an earnest appeal for aid in the campaign for woman suffrage. Donations, however small, will be thankfully received by Mrs. Sperry at No. 564 Parrott building, San Francisco.

A SHIP has just been launched at Belfast for the Hamburg-American line larger than the celebrated Great Eastern. She is 585 feet long, 62 feet beam and 42 feet deep. She will accommodate 1350 passengers and will ply between New York and Hamburg. Another ship of the same dimensions is being built in Hamburg.

IT appears that the accident to the steamship Umatilla, near the entrance to Puget sound, was much more serious than was at first believed. The ship has been dismantled and stripped of her works and will be beached in a locality safe from storms until such time as she may be raised and repaired. It will probably be many months before she is again in commission.

GEN. T. H. GOODMAN, long associated with the Southern Pacific Railroad as the head of its passenger department, is reported to be lying on his deathbed in San Francisco. During his service in the war he contracted chronic rheumatism and has ever since that time been an almost constant sufferer from it, and it is the culmination of this trouble which now threatens his life.

DR. CURNOW of San Jose declares in an official report that the average duration of life in Santa Clara county is about forty-three years, which is longer than that of any other district in the United States. "The average duration of life in New York," says Dr. Curnow, "is twenty-nine years; that of Savannah, Georgia, twenty-six years." The special condition of Santa Clara county is attributed to the health of young children in the country.

LORD ROSEBERY has resigned the leadership of the English Liberals, owing, as he claims, to the interference of Mr. Gladstone in relation to the party policy relative to Armenian affairs. In connection with this resignation, there is a story to the effect that Lord Rosebery is about to marry a daughter of the Prince of Wales, and that his real reason for retiring from the Liberal leadership is the objection of the royal family to his political attitude.

THE death is announced of George A. Sheridan, for many years celebrated as among the most brilliant campaign orators in the United States. Although little more than a boy during the war, Sheridan rose to the rank of a General in the Volunteer service and won distinction for dare-devil courage in the field. He has made speeches in every Presidential campaign since the war until this time. He was an inmate of the Soldier's Home at Washington, having sought that retirement, owing to infirmity and poverty, something over two years ago.

GENERAL BERNAL, second in command to Captain-General Weyler, is quoted as saying that General Maceo, the insurgent leader, has not been idle during the last few months and that he has brought his forces to a much better organization than they have been at any former time during the war. He is splendidly entrenched and any attempt to dislodge him with anything like the present Spanish forces would be sure to result in a disastrous failure and a wholesale slaughter. It is very clear that the end of the Cuban war is not to be for some time yet, and the conviction steadily grows that the patriots are destined to win in the end.

A SUIT has been brought in New York by a well-known milkman for the value of 350 gallons of milk supplied by him to Miss Held, a Parisian actress, and for which she refuses to pay. It appears that it is Miss Held's practice to take a daily bath in milk, forty gallons being required for each bath. She discovered—so her lawyer alleges—that the milk supplied her was not fresh from the cow, according to bargain, but had been held over from the previous night's milking and was therefore wanting in the qualities for which she bought it. Her refusing to pay is therefore defended on the ground that the milk was not according to contract. Just why anybody should want to bathe in milk we are not quite able to say, but there are certainly some advantages in the practice from the standpoint of the dairy interest.

MANY readers of the RURAL PRESS who have dealings with the firm of Castle Brothers in this city, will learn with very sincere regret of a misfortune which has befallen Mr. Walter Castle in London, whither he went some months ago. On Thursday of last week, Mr. Castle, his wife and their son were arrested upon the charge of having stolen merchandise from London merchants to the value of about one hundred dollars, and upon investigation the articles were found packed in trunks belonging to the Castles and which were ready for shipment to America. The charge was indignantly denied, but in spite of all and in spite of the efforts of friends on both sides of the Atlantic, Mr. and Mrs. Castle were remanded to jail, where they remain at this writing. It turns out that the merchandise was actually stolen by Mrs. Castle, the assumption being that she is a victim of that kind of insanity known as kleptomania. Medical experts who have examined her case will testify that her condition is one of total irresponsibility. It is believed that the courts will release her from custody upon the assurance of her husband that she will be properly looked after. Mr. Castle is of course terribly stricken by this blow, and is reported to be in a condition of extreme nervous prostration. Nobody who knows Mr. Castle will believe for one moment that the facts of the case are other than as they have been represented. In addition to his high character for integrity there would have been no temptation for dishonest conduct, since to a man of his wealth the value of the stolen articles would be the merest trifle.

AFTER a dutiful visit to his wife's grandmother at Balmoral Castle last week, the Czar of Russia moved on to France, where he was received with such ceremonies as perhaps the world never saw before. The people of Paris simply went wild with excitement and enthusiasm, and the greeting took the most sensational and extravagant form. For example, the trees on the line of procession being bare at this season, were liberally covered with artificial foliage, including many kinds of beautiful flowers, and thus giving the appearance of avenues bordered by blooming orchards. In other respects the reception was on the same plan of extravagance. It is estimated that five million persons witnessed the extraordinary event, there never before having been such an assemblage in the French capital. The significance of all this lies in the friendly and political relationship of the two countries. For two or three years past Russia has been in formal alliance with France, and it has been declared that the purpose of the Czar's visit was to establish the alliance with the French *people* already existing between the French *government*. This certainly appears to have been done. No possible efforts of officialism could have produced so much enthusiasm or splendor as marked this brilliant occasion. In reading of the eagerness with which the French populace greeted the greatest despot upon the earth, one is led to wonder how sincere is their attachment to republicanism. It seems hardly possible that a people to whom the ideals of liberty are very dear could so go to extremes in heaping honors upon a sovereign whose whole position and character is a denial of these ideas.

From an Independent Standpoint.

As usual in Presidential years, the critics of our American system of national elections are very much in evidence; and there is the customary talk about waste of time, energy and money in campaign projects. It is not to be denied that there is a good deal of extravagance and some folly in the brass-banding and general hullabaloo of a Presidential contest; and it is also true that the business loss is considerable. But we believe, on the whole, that it pays. Its educational value is beyond computation; and not only do the people gain a great deal of information in a Presidential campaign by reading and hearing discussions of public questions, but they get a very important intellectual stimulus from the general excitement of the time. Again, as a promoter of personal patriotism, a Presidential campaign has a valuable relation to American life. It serves to bring home to every citizen, with spirit enough to keep his eyes and ears open, the fact of his personal responsibility in the matter of public affairs. It has been remarked by one of the most profound critics of our time that, when the Government of a country fails to excite enthusiasm, there is apt to be some decline in its patriotism; and it has often been pointed out that one of the causes of the popularity of military adventure in despotisms is the absence of any interest in ordinary public life. A study of all the considerations, we believe, will sustain the claim that our quadriennial elections, in their effects upon national life, are worth more than they cost, and that they form one of the most useful schools of American citizenship. Like a baby in a family, a general election is a lot of expense and trouble and the cause of much apprehension, but nobody ought to be willing to do without it.

There are many indications that a point has been reached in the historical development of this country when a simple organization of political forces into two parties is no longer practicable. We have today no less than seven distinct political groups, each standing upon a definite platform of political ideas. There is the Republican party, the Silver Republican party, the Democratic party, the National Democratic party, the Populist party, the straight Silver party and the Prohibition party. It is claimed, to be sure, that some of these groups are not political parties, correctly speaking, but mere factions of general organizations brought into antagonism by the strain of a great emergency. This observation is sound enough as to the facts; but it fails in the matter of their interpretation. It is in the nature of a crisis to subordinate differences and to bring sympathetic and related forces into combination; and when we discover effects just contrary—when we see those who get on together fairly well in times of peace fly into opposition the moment an emergency comes—it is fair to conclude that they represent standards of opinion and methods of thought fatally at odds and that their alliance is artificial and unsubstantial and doomed to a brief career.

The truth is that differences long existing, but unconfessed, have been forced by the political conditions of this year to declare themselves. However people have deceived themselves hitherto, it is now clear that there is no identity between the Democracy of Grover Cleveland and Senator Ben Tillman, the Republicanism of Wm. McKinley and Senator Stewart, or the Populism of Senator Allen and Cyclone Davis of Texas. It is not unlikely that, as soon as the smoke of the great pending battle shall have cleared away, efforts will be made to reunite the elements for which these contrasting names stand, but it does not appear likely to succeed; and even if they should come together again, it would in the nature of things be only a nominal arrangement, wanting in the first condition of sound working union, namely, mutual confidence and respect. Such an arrangement could not be lasting, for in any new crisis it would fail just as the old connections have failed under the strain of the present year.

There appears to be a tendency inherent in parliamentary governments to the breaking up of parties. In England, in Germany, in France, in Italy, as well as in many minor States, there has come about in late years a general disintegration of parties. A little while back Belgium was said to be the only European country where the legislature was still divided into two distinct parties; but within a very recent time there has been introduced into her parliament a new and powerful socialist group. Mr. Lecky, the historian, from whom we gather these facts, declares that a sure effect of the break-up of parties into many separate groups is a lowering of parliamentary standards and of morals. Illustrating this charge by the example of England, he declares that the Government has lost much of its authority and responsibility; that it is weak, from the fact that it depends upon the concurrence of many distinct groups, governed by different motives, aiming at different objects, and representing different shades of political feeling. It is obliged to conciliate by separate bribes these different sections, or to discover some cry that will rally them.

It is unquestionably true that the disintegration of parties is conducive to the success of minor and sectional objects. As Mr. Lecky points out, a group of men in any parliamentary body representing opinions and aiming at objects which are only those of a small minority, may obtain a decisive influence if it keeps apart from the great party organizations, subordinates all other conditions to its own objects, and at times when parties are evenly balanced, and when a few votes may be of extreme value, makes the attainment of these objects the price of its support. This was precisely the position assumed in the U. S. Senate last winter in connection with financial legislation, by a small coterie; and it is understood that, in the event of McKinley's election, the same men will hold the same policy this coming session, demanding the acceptance of their financial projects by the majority preliminary to any action in the matter of reforming the tariff laws. Where there are only two strongly organized parties, minor and incidental questions fall into their natural place; but in a Congress broken into many factions, each faction can exercise a power utterly disproportionate to its numbers and to its real hold upon the country.

Thus in the break-up of parties, which appears to be an accomplished fact, we are likely soon to meet a new and demoralizing condition in our national life. From this time on it will become a duty of our higher statesmanship to combat, at a serious disadvantage, policies which the country does not wish for, but which may acquire a dangerous force in an easy system of parliamentary log-rolling. One minority will agree to support the objects of another minority on condition of receiving in return a similar assistance, and a number of small minorities aiming at different objects, no one of which may be desired by a majority of the people, will seek to attain their several ends by forming themselves into a political syndicate and mutually co-operating. It has long been a habit with persons of patriotic sentiment to denounce the spirit of radical partisanship; but there is possibly a time coming when we shall look back upon the period of alternate Republican and Democratic ascendancy as a halcyon time.

Gleanings.

IOWA and Wisconsin are going to pay a sugar beet bounty.

THE Japs have driven white labor out of the fields in the vicinity of Watsonville.

THE beet crop of the country tributary to the Watsonville factory is now about half delivered. The whole crop of beets this campaign is expected to be 120,000 tons.

A SCIENTIFIC JOURNAL says in an article on serpents that the female adder produces fifty young once every year. From this it would appear that the adder is also a great multiplier.

VINEYARDS in the vicinity of Fresno are infested by sneak thieves, who prowl about at night for the purpose of stealing raisins. One night last week F. MacLean of Malaga lost sixteen full sweat boxes.

ONE HUNDRED AND THREE carloads of beans were shipped East over the Ventura division of the Southern Pacific Railroad last week. During the same time enormous quantities of beans were shipped to San Francisco by steamer.

ON Friday last the Farmers' warehouse at Livermore, containing 4500 tons of hay, was burned to the ground. The loss in money is about $40,000, upon which there is an insurance of $18,000. The hay belonged to the farmers in the neighborhood.

THERE is no means of finding out what proportion of the year's wheat crop is still in first hands, but it is believed that at least two-thirds of it has already been sold. Generally speaking, farmers will not gain the advantage of the recent rise in price.

THE president of the State Horticultural Society has appointed Messrs. Alfred Holman, B. M. Rowley and E. F. Adams as a committee to represent the society at a joint meeting of the Manufacturers' and Producers' Association and the State Horticultural Society, to be held in San Francisco on the 29th inst. The subject of this meeting will be the question of home producers and how to promote their interests.

THE Healdsburg *Enterprise* reports that not to exceed eighty carloads of dried prunes will be shipped from Sonoma county this season. It required 125 cars to move the crop last year, and even then the orchardist complained. Prunes are of good size and of fair quality.

THE Los Angeles *Times* estimates that the coming orange crop will reach from 6600 to 6500 carloads, and that the quality will be above the average. The difference between these figures and an earlier estimate of 10,000 carloads is due to loss by dropping during the past sixty days.

THE company which has recently acquired the Chino ranch advertised to sell all horses on the ranch, between nine and ten hundred in number, including every kind of a horse from a thoroughbred down. Many are being disposed of at private sale, but the bulk of them will be sold at auction on the 7th of November.

CINCINNATI, October 11.—The reports from the farmers in Ohio and Indiana are alarming over the losses from hog cholera. The corn crop is very large, but the hogs are dying fast. The hog cholera has prevailed some weeks, and during the last week the losses have not only increased in the infected districts, but the disease is becoming general throughout the Ohio valley.

THE managers of the Biggs cannery congratulate themselves upon an excellent season's run. They have packed more than their contract called for and have given employment for many weeks to hundreds of people, and have been the means of bringing many thousands of dollars of ready money into the community. Since the close of the fruit season the cannery has been running alternate days, packing tomatoes, and the names of ninety-nine persons are still on the pay roll.

UP to October 8th twenty-eight carloads of Bellefleur apples have been shipped from Watsonville to middle-of-the-continent points east of Utah, and the shipment for this district is now running at the rate of two carloads daily. A large part of the Pajaro valley Pippin crop has been sold to the same trade. It was supposed earlier in the season that the big apple crop in the East had killed the Eastern call for Pajaro valley apples, but it seems that they are well able to hold their place in the market, no matter how serious the competition may be.

LOMPOC *Journal*: Agents from the South are now among us wishing to contract for 200 tons of apples. The small apple boxes are being cast aside, and apples in bulk—in fifteen-ton lots—are placed in freight cars, which will save from $8 to $10 per ton. All this adds value to the crop. We urged every farmer some time since to plant out from five to ten acres of choice winter apples that he might have a diversity of products to market. If Lompoc had 1000 tons of apples this year, a greater net profit would be realized per acre than from any other product taken from the land, and this with less than one-half the cost of producing other kinds of crops. There is no danger of overdoing the apple business in our valley when it is known that the codlin moth is destroying the business in the northern counties. If that moth can be kept from this region, every acre of good apple land with a seven-year orchard will be worth $500 per acre inside of five years.

SAYS the *Prairie Farmer* of Chicago: "Wheat has made a very satisfactory advance during the past two weeks. Up to Saturday last it had scored an advance of about 10 cents a bushel, which means a profit to the wheat growers of this country of about $40,000,000. Flax has also advanced about 6 cents, which puts more than $12,000,000 into the pockets of the growers. Within ninety days cotton has advanced about $10 a bale, which means a gain of about $80,000,000 for cotton growers. We believe that these prices are the result of a legitimate demand, and that from this time forward we can look for a reasonably strong market for all surplus products. It is not unreasonable to predict that an era of better prices is upon us, and that farmers and stock growers will have their innings for the next three or four years. Upon the whole, the situation is brightening up and the outlook is better than any one would have dared to have predicted thirty days ago."

SAYS the Colusa *Sun*: When wheat reached $1.20 at San Francisco times began to brighten through the State. There was in it a small margin of profit to the farmers, and those who were fortunate enough to sell at the top price reduced the mortgage on the farm and thus got a basis of credit for the coming year. There had been for a year or more a boom in mining, but, whatever happened, it did not bring about that feeling of confidence everybody experienced when there was an advance in wheat, and that feeling came before there was much money passed at the higher prices. If wheat had an established price that would give the farmers of the State an assured profit of say five millions of dollars every branch of business would become prosperous. Ten millions taken from the mines, if it were all profit, would not begin to start the wheels of business going like it. The business men of the great centers of trade should see and recognize the immense value of agricultural prosperity so they would do everything in their power to encourage and foster it.

THE Horticultural Commissioners of Fresno Co. (J. A. Rose, J. R. Baird and J. F. McDonald) report that they have inspected 2035 orchards, embracing 1,575,323 trees, of which 1,483,616 are deciduous fruit trees, 48,267 orange, 11,267 lemon and 32,173 olive. The deciduous trees are classified as follows: Apple, 31,425; pear, 225,791; peach, 789,657; plum, 51,851; fig, 90,574; cherry, 3462; almond, 20,979. Of the orchards inspected, 988 were found to be infected with scale. During the season 341,099 deciduous fruit trees were brought into Fresno county. To this number must be added 65,360 orange trees, 725 lemon, 270 grape fruit, 5945 olive and 3000 chestnut. All of these trees were inspected when they arrived. During the season 158,467 deciduous fruit trees and 2261 orange, 234 lemon and 7856 olive trees were exported; 50,000 grape vines and 390,000 cuttings were also sent out. Forty-five orchards have been sprayed by the commissioners, the owners having failed to obey the law. The expense of the treatment stands as a lien against the orchards. The commissioners find that the codlin moth, once such a pest in Fresno county, is yielding to the influence of Paris green, and they hope to wholly eradicate it. The commissioners estimate that between 25,000 and 50,000 trees have been saved from the moth during the present season. The red spider pest has spread to an alarming extent, and has caused great damage throughout the county. The commissioners recommend strict precautions against the introduction of "the yellows," and go on to say that cottony cushion scale and the woolly and plum aphis are causing some trouble. Root knot is becoming more and more prevalent among deciduous trees, and the commissioners have been forced to destroy many affected trees. In conclusion, the commissioners say: "Altogether, the condition of the fruit interests of Fresno county is very prosperous, and the matter of successfully growing citrus fruits here is fully established. Owners of bearing orange orchards are already shipping many carloads of the fruit annually. The entire shipments of raisins and green and dried fruits during the year ending September 1, 1896, from Fresno, Malaga, Fowler, Selma, Kingsburg, Sanger and Reedley are as follows: Raisins, 2725 carloads; dried fruits, 350 carloads; green fruits, 436 carloads; oranges (from the town of Sanger), 27 carloads—equal in all to a freight train thirty miles in length."

THE VINEYARD.

The Sonoma County Vintage of 1896.

(Healdsburg *Enterprise.*)

Another week will see winemaking about finished in Sonoma county. It has been rush this season from the time the vineyardist gathered the first box of grapes from the vine, for the weather clerk has been off in his reckonings for '96, and after spoiling Santa Rosa's Rose Carnival with rain, the tillers of the soil are taking no chances.

In their anxiety to deliver the product of the vine before the rain would come, growers have in many cases brought to the wineries unripe berries, and the result is very apt to be an inferior wine. From our observations we are led to believe that the manufacturers have been very considerate to the producer, and in too many cases crushed grapes which should have been rejected.

Sonoma will easily retain her place as the wine producing center of California this season, and a conservative estimate gives a production of five million gallons for the year within our borders. Remembering that the grape crop is a partial failure this year, this goes to show the importance of the viticultural interests of our grand county.

Cloverdale district will lead in the production of wine. F. C. Albertz has purchased large quantities of grape juice. The Cloverdale Wine Co. will crush 800 tons of grapes, which will give the firm something over 100,000 gallons, while the Swiss-Italian Colony's output will be about 300,000 gallons. There are several smaller wineries in the citrus belt, and these will manufacture 100,000 gallons, making a total production of 900,000 gallons of wine in that district alone.

Miller & Hotchkiss are operating in no small way. At Windsor they will make up 250,000 gallons of wine, while their Trenton winery will handle 1000 tons of grapes, which means another 150,000 gallons. The Riverside winery, under the management of the same firm, will swell the amount of wine to be put on the market 60,000 gallons. In the three cellars of Miller & Hotchkiss fifty men are employed, and everything is running as smooth as silk.

B. W. Paxton will make up 75,000 gallons of high-grade wine.

Simi Bros. expect to manufacture 300,000 gallons of wine, while C. A. Reiners will have 500,000 gallons for the season's output. Claus Meyer, of Geyserville will fill his cellar, and Feldmeyer & Stammer of the same place will make 60,000 gallons.

Every cellar in northern Sonoma is operating to a greater or less extent. Many manufacturers have been able to secure grapes enough to fill empty cooperage while others are not so fortunate.

In the matter of price, there has been no set value. Early in the season growers figured on $25 per ton, and not until the berries were ready for the crushers, did buyers manifest any desire to go into the market. The producer was determined in his stand at first, but finally many must have weakened, for hundreds of tons of the best wine grapes were purchased hereabouts for $15 and $16 per ton. There were a few small vineyards sold for $20 to $22 per ton, but the average price for grapes here will be found to be about $18.50 per ton.

The crop has turned out much better than the majority of growers expected. The frost undoubtedly did some damage, but nearly every seller of grapes has delivered a larger quantity to the wine maker than he contracted for.

Already the good effects of the revival of this great industry are being felt. Money from the grape crop is beginning to show itself and it comes at an opportune time. The vineyards of Sonoma will bring in over $800,000 and it will relieve conditions greatly.

It is quite probable that many new vineyards will be planted this season. The men who put prune trees between their vines a year or two back, will not be long in determining which will stay, and it need not be surprising if vines be planted between prune trees this winter.

The establishment of the cream tartar factory in Healdsburg has been of great advantage to wine makers of this city. Everything is business at the big factory these days, and wagon-load after wagon-load of pomace is being stored in the warehouse for use this winter. Mr. de Latour, the affable manager, informs the writer that he has purchased all the pomace available in the county this year and will also look to Napa county cellars for their pomace. He expects to handle 5000 tons. This means that the tartar factory will run night and day for the next six months, thereby giving employment to thirty men.

The revival in the wine business has been of great advantage to coopers.

The growers in this end of the county paid good prices to pickers, and employed white help only. This is commendable.

During the busy season scarcely any wine is being shipped from this place.

F. Burr, whose vineyard lies two miles north of Geyserville, is one of the fortunates this year. He is gathering the heaviest crop ever produced on his vines.

The brandy output of northern Sonoma will be less for 1896 than usual. The market for brandy is far from satisfactory, and the price of grapes too high to warrant any of the distillers operating in a large way. What is true of brandy is also applicable to sweet wines. Walden & Co., whose immense distillery is located near Geyserville, will manufacture several thousand gallons of sherry, but the season's work at that plant is light as compared with former years.

SHEEP AND WOOL.

A Good Time to Go Into Sheep.

There are many indications that it is a good time to figure on extending the flock interest. We hope the time is close at hand when California will have more sheep and better sheep than have ever yet been herded in this State, and a wool product proportionately greater in bales and dollars. The whole country just now seems to be thinking about the opportunity in flocks.

The Decrease in the Sheep Census.—J. R. Dodge, in the *Wool Growers' Bulletin*, meets the view expressed in some newspapers that either the "reduction of our national flocks has been overestimated, or that the increasing numbers in market have been due to the general disposal of breeding flocks," with the opinion that the latter theory is inconsistent with the constantly increasing number of lambs in market. It is quite certain that the national official statement is an overestimate. Mr. Dodge says his information is full and unquestionable that ewes in large numbers have been fattened and sent to market, notably in Texas, and that breeding flocks have been depleted heavily. State official enumerations show this. The estimate from local returns of Mr. B. W. Snow, ex-assistant statistician of the Department of Agriculture—a statistician of broader experience, higher aptitude and greater success than any other in the field of statistical investigation—is about 32,000,000, or 6,000,000 less than the January estimate of the Department of Agriculture. Mr. Dodge says his experience attests the remarkable facility for decrease of flocks where sheep husbandry is unprofitable, and the less sudden but steady increase where that industry has the favorable regard of stock growers.

Historical.—In 1868, when markets were glutted and prices of wool low throughout the world, the disgust of Ohio and Michigan farmers sacrificed 4,000,000 sheep, and few went to meat markets, most of them to the rendering vats, after stripping off their skins. I am glad to see that in the present depression few have been thus sacrificed, while the exports, as well as domestic consumption, have increased. Another source of loss has been heavy. The last census returned 2,412,276 died within the year from disease or stress of weather and 612,329 killed by dogs—of farm flocks, all told, over three millions. The greater ratio of loss on ranches would swell this loss to 4,000,000. An increase of 25 per cent from deficiency of care or greater neglect, in these times when flocks are deemed in some districts more a burden than a blessing, would easily swell this loss, for a time at least, to 5,000,000 per annum. Now let us look at the lamb account, and the facilities for increase. In 1890, when farm flocks were reported 35,935,364, the number of lambs dropped was returned at 12,623,257, or 35 per cent of the number of sheep. Including range flocks, the total lamb crop would be in round numbers 15,000,000, with an annual loss of 4,000,000 under most favorable circumstances, leaving possibly 11,000,000 for slaughter, either as lambs or sheep, or for increase of flocks. The number of spring lambs sold for consumption in 1889 was returned from farms as 3,372,535, and including range lambs could not be less than 4,000,000. A single lamb slaughtered for home use by each of the flock owners would make another million, leaving but 6,000,000 to replace sheep slaughtered on farms and ranches and sent to Eastern and Western and local markets.

Greater Decrease in Bad Times.—This is the status in good times, when there is an increase of flocks by superior care of sheep and by lambs dropped, and from higher prices, which tend to diminish consumption. When sheep husbandry is depressed and unpopular, on the contrary, the loss from disease and neglect is increased, the lamb crop is reduced, markets are glutted with cheap mutton, and the fat sheep surplus is forced into the export movement. This has been the case during the past three years as never before. Note the receipts and shipments at four markets in 1889 and 1895:

	Receipts, 1889.	*Shipments.*	*Receipts, 1895.*	*Shipments.*
Chicago	1,832,469	711,315	3,406,739	474,616
St. Louis	358,495	255,375	510,660	119,145
Kansas City	370,772	174,851	865,713	287,294
Omaha	159,503	103,250	208,633	113,793
Totals	2,721,239	1,244,791	4,990,745	994,848

Here is an increase of receipts of over 2,000,000, and deducting shipments an increase of consumption and distribution from 1,476,448 to 3,995,897, almost 200 per cent increase, or 2,519,449. The shipments are small, and few go into the Eastern receipts, which you quote as 4,265,000. Add to this nearly 9,000,000, those slaughtered in smaller Eastern and Western and Pacific coast markets and those killed by flock owners in all parts of the country for home consumption, with increased loss from disease and neglect and a decrease in number of lambs dropped, and it is not hard to account for the loss of 15,000,000 sheep in three years, or 30 per cent of the country's flock. And still the number of lambs dropped could be 11,500,000 or 10,000,000, with a large reduction on the percentage rate of increase; so there is no trouble in accounting for large sales of lambs, as long as twice as many sheep go to market with them.

The Outlook.—Whether the lowest point has been reached remains to be seen. There has been a large decrease of flocks in Australia and elsewhere, wool is higher in London, and, while lower in this country than in Great Britain, it must increase in value. The larger consumption of mutton "has come to stay." The mutton breeds are increasing and the time is coming when wool will no longer be a drug. It may be a very good time to go into sheep husbandry, and a turn in the tide may soon raise prices and enlarge flocks.

THE SWINE YARD.

Breed the Right Kind of Hogs.

President Mills of the Ontario Agricultural College told the members of the Swine Breeders' Association that it pays swine breeders and feeders to study the requirements of the markets in which they have to sell their animals—to ascertain what the packers want, and endeavor to furnish pigs of the kind and quality for which there is the greatest demand and the highest price. The packers ought to know the kind of pig which best suits their purpose, and when they have told us that they prefer a pig which furnishes a long, deep lean side of bacon, we should pay strict attention to their statements and do our utmost to breed and feed so as to get precisely the kind and quality required. It is better for the pork trade and for the farmers that pigs should be sold alive, rather than killed and dressed at home. When packers get the pigs alive they can kill, cut and cure them uniformly, so as to meet the demands of their trade, and for that reason they can afford to pay proportionately a higher price for living than for dead animals. This is beyond all question, and, taking the prices paid for the last few years, we are forced to the conclusion that the farmer loses money on every pig which he kills at home; or rather, that he has the heart and liver for his labor and gets less money for his dressed pork than he could have obtained for his hogs on foot. Pigs dress from 72 to 78 and very rarely 80 per cent of their live weight, so a comparsion of prices and a very simple calculation will show which is better for the owner of the pigs. Suppose your pigs are rather thin and the live weight price is $5 per 100 pounds. Then multiply this price by 100, divide the product by seventy-two, and you will get $6.94 as the dressed weight price, which will bring you the same amount of money. If your pigs are in fair condition and of good quality, divide by seventy-five instead of seventy-two, and you will get $6.67 as the dressed weight price; and if they are fat and of first-rate quality, divide by seventy-eight or eighty, and you will get $6 40 and $6.25 respectively as the corresponding dressed weight prices. In this way it is very easy to compare the prices and determine in each case which is the more profitable for the owner of the pigs.

Unground Grain for Swine.

In view of the constant discussion of this subject, we copy the following article from the London *Farmer:*

During the summer of 1894 several experiments in pig feeding were conducted at the Dairy Institute of Proskau. The object of these experiments was to determine whether barley fed in whole grain was deleterious if used in considerable quantities; to compare the relative feeding values of barley and maize fed in conjunction with skim milk, and to determine more exactly the nourishing value of whey. For this purpose four pairs of pigs about seven weeks old were selected. In the first stages of the trial one lot of pigs were given whole barley, the second crushed barley, the third crushed maize and the fourth crushed maize with whey. The first three lots were also given equal quantities of potatoes. The whey fed to the fourth pair weighed about three times the weight of the potatoes given to the third pair. Skim milk in equal quantity was given to each of the four pairs. For nine weeks there was little of an unusual nature to chronicle. After this period, however, the quantities and characters of the food underwent a few variations. At the beginning of August it was found that the crushed barley had produced better results than the whole grain, and that the crushed barley had shown up better than the crushed maize. Unfortunately, the fuller results of this inquiry were denied the experimenters, as the pigs which were fed on maize refused their food, and were at the same time attacked by what, in the language of the country, is called "bone-stiffness."

The Advance in Wheat.

Review of the Facts Affecting the Supply, Demand and Price of Breadstuffs.

When the wheat markets of the United States and Europe began to appreciate about four weeks ago the prevailing opinion was that it was caused by a bull movement on the part of a strong moneyed pool. While this has proven to be measurably correct, still the higher prices to which the markets have been sent are justified by the statistical facts of this time.

In spite of the fact that the world's production of wheat steadily increased from 1890 to 1894, inclusive, still it has not kept pace with the increased consumption. The cause of this, no doubt, lies in the well-known fact that the population of the world has made rapid gains by reason of there not having been any large decimating war between civilized countries or a widespread epidemic. Another thing can also be taken into consideration, namely, the cheapening in the market value of wheat since 1892 has brought it into more general use as an article of food in countries where rye, rice or other cereals have had a strong foothold. One of the most important factors instrumental in reducing the price of wheat has been the large increase in the production of Russia-Poland and South American countries, particularly Argentina, with India's yield having held to its general average. These countries produced in 1892 524,961,000 bushels, and in 1895 655,250,000 bushels, aggregating about one-fifth of the total yield of all producing countries. This year the crop of India and Argentina has been, virtually, a failure, while that of Russia-Poland shows a falling off of fully 20 per cent. So far this season the exports of Argentina have aggregated only about 17,500,000 bushels, while during the corresponding time in 1894 they aggregated over 55,000,000 bushels.

The yearly wheat yield of the world since 1890 aggregates as follows, in bushels: 1890, 2,269,761,850; 1891, 2,364,288,000; 1892, 2,392,227,000; 1893, 2,465,344,842; 1894, 2,471,742,129; 1895, 2,374,500,000; 1896, partly estimated, 2,180,000,000. In view, as stated in the fore part of this article, of the statistical established fact that consumption has not only overtaken but is in excess of production, the falling off in the crop this year will be an important factor in not only sustaining present prices, but be instrumental in promoting a higher range before harvest in Argentina next January and in India in March next.

It is not alone in India, Russia-Poland and Argentina that there is a decreased yield, for Spain and Australian crops show quite a falling off, while in the United States the outturn (estimated on the Government returns) will be about 400,000,000 bushels, against 467,102,947 bushels last year, 460,267,416 in 1894, 396,131,725 in 1893, 515,949,000 in 1892, and 611,780,000 in 1891.

Summarizing the causes which led up to a small outturn east of the Rocky mountains, the principal are: Winter killing, due to too much moisture; insect attacks, rust, and especially the prevalent heavy rains following harvest, from which a large percentage of the grain sprouted and rotted in the shock. The spring wheat fared generally better than winter wheat.

Commercial and Government estimates of the wheat crop in the United States seldom, if ever, agree. The former are from 30,000,000 to 50,000,000 bushels more than the latter; for instance, while the Agricultural Department gives the 1895 crop at 467,000,000 bushels, commercial estimates place it at about 500,000,000 bushels. This year's crop, based on Government returns, is about 400,000,000 bushels; the commercial estimate is 450,000,000 bushels. But let the differences be what they may, yet they do not vary much when it comes to estimating the supply or stock on hand at the end of each season.

A late issue of the Cincinnati *Price Current* contained a review of the wheat market in this country, in which it gives the yearly average price of that cereal at that city since 1844. By its statement it seems that, for the first five years ending with September 1st, the average price was 72 cents a bushel. For the first ten years it was 74 cents. For the second period of ten years higher prices prevailed, notably in the early portion of the period, with 134 cents the average for 1854 and 156 for 1855. The general average for the ten years was 107 cents a bushel. In the subsequent ten years, or from 1864 to 1873, inclusive, the general average was 132 cents, the average on a currency basis being 177 cents. Prices were well maintained in the next ten years—1874 to 1883, inclusive—averaging 108 cents. For the twelve years remaining—1884 to 1895, inclusive—the general average was 81 cents; the first half of the period was 87 cents and the last half 75 cents. The decline has been in the face of cheapening inland transportation. For the entire period of fifty-two years the general average was almost exactly 100 cents a bushel.

We find the following with reference to the wheat situation in the New York *Commercial Bulletin* of the 6th inst.:

During the past two months attention has several times been called in these columns to the urgent and large demand for ocean transportation facilities for grain, due to the active foreign demand this year for American wheat. This demand for ocean accommodation still continues. Foreign houses are credited with being heavy holders of wheat futures, which they will, it is expected, exchange for cash wheat when proper opportunity to ship at fair rates is offered. The foreign demand this year is the result of unfavorable crops in Russia, India and the Argentine, though the usual importing countries have themselves fair crop prospects.

As far as India is concerned, instead of being a large exporter this year, there is a belief that India itself will be compelled to purchase California wheat. A cable dispatch in the *World* yesterday, from London, quotes the following dispatch to the *Times* of that date from Simla, India, with reference to the proposed shipment of California wheat to India:

"The best news we could receive would be that twenty or thirty cargoes of wheat were being shipped from North and South America. It would steady the market and check the further rise, while the actual arrival of cargoes would cause the native grain dealers to lower their prices, the high prices having already caused discontent and grain riots in various towns."

Regarding the Russian crop, a special commissioner of the Liverpool *Corn Trade News*, who has been investigating the crop situation there, says in a letter from Odessa: "At the beginning of the harvest the reports became worse every week. The climatic conditions of the '95-96 season were most abnormal. Winter seeding was much delayed in central and south Russia, owing to the drouth, which also was the cause that about 20 per cent of the rye and winter wheat in central and south Russia did not come up. In the southwest the development of the seed was, however, too rapid. The rye crop in Russia has been injured by too rapid growth, drouth and rain, except in some southwestern districts where rye is an average. The Volga and Caucasus districts have a poor average crop, the rest of Russia scarcely 50 to 60 per cent of an average crop of rye, so that the rye crop all over Russia will be under the average—quality bad.

"Winter wheat is still worse, for Poland only has a fine crop, above the average, and Kieff an average crop. The quality in Poland is but middling, and in Kieff has suffered from the heat; the average weight is lighter than usual. Bessarabia has reaped a small crop of wheat in the three northern districts and nothing in the others. South Russian azima (winter wheat) is a failure, only about 25 per cent of an average crop, most of which is only fit for fowl corn. The natural weight reaches only occasionally 8 poods 20 pounds per chetwert.

"Spring wheat is varied. Central Russia has comparatively a tolerable crop, but still under average, and in quality this crop is better than winter wheat. In south Russia the ghirka crop has missed, and a crop of only 25 to 40 per cent is expected. Ulka has turned out better, and is estimated at an average crop. The general crop of spring wheat is reckoned to be under average."

Prices of wheat to-day show a material advance when compared with the corresponding figures of a year ago. Following are the closing prices of wheat futures last evening compared with the final figures of October 5th a year ago:

	Wheat 1896.	Wheat 1895.
October	71½c	65⅜c
December	73⅝c	65¼c
January	74¾c	....
May	76⅜c	69⅛c

Official Awards State Fair, 1896.

The following is the official list of awards at the recent State Fair at Sacramento in the departments devoted to live stock, farm, orchard and vineyard products:

Live Stock.

CLASS 1, THOROUGHBREDS.—*Horses:* W. T. Parsons' Artillery, best 4-year-old and over stallion, $40; Burns & Waterhouse's Take Notice, second best, $20; Ed Purser's Yankee Doodle, best 3-year-old, $30; Mrs. E. F. Smith's Peru, second best, $15; Ed Purser's Rey del Tierra, best 2-year-old, $20; D. J. Tobin's Lovelock, second best, $10; Mrs. E. F. Smith's ch. c. by Midlothian, best 1-year-old, $15; Ed. Purser's ch. c. by Prince Royal, second best, $7.50; Burns & Waterbouse's b. c. by Take Notice, best under 1 year, $10; C. Halverson's Gilt Edge, second best, $5. *Mares:* Burns & Waterbouse's Picnic, best mare and colt 4 years old and over, $40; Ed Purser's imp. Elise, best mare 4 years old, $30; Ed Purser's Applause, second best, $15; J. Follansbee's La Mascota, best mare 3 years old, $12.50; Ed Purser's Modesto, best mare 2 years old, $15; J. W. Donatban's Etbelinda, second best, $7.50; George W Poorman's Moral, best 1-year-old, $10; Burns & Waterbouse, best suckling filly, $5. *Families:* Burns & Waterhouse's Take Notice, best stallion and five colts, $30; C. Halverson's Isabella, best mare and two fillies, $20; C. A. Durfee's McKinney and five colts otber tban tborougbbreds, $60; Lily Stanley, best mare and two colts, $40.

CLASS 2, STANDARD TROTTERS.—*Horses:* H S. Hogoboom's Waldstein, best stallion 4 years old and over, $40; George T. Becker's Zombro, second best, $20; La Siesta Ranch's Willowe, best stallion 3 years old, $15; A. Heilbron & Bro.'s Diamond Whips, best 2-year-old, $10; Mrs. E. W. Callendine's Diawood, best 1-year-old, $15; La Siesta Ranch's Warranty, second best, $7.50; Henry Pierce, best suckling, $5; W. J. Irvine's Our Jack, best gelding, $25; James McCaw's Royal Knigbt, second best, $15. *Mares:* Henry Pierce's Lily Stanley, best 4 years and over witb colt, $50; Henry Pierce's Silver Eye, second best, $20; C. H. Gilman's Miss Easter Wilkes, best 4-year-old, $30; Mrs. E. W. Callendine's Abbie Woodnut, second best, $15; Henry Pierce's Lily Guide, best 3-year-old, $30; Mrs. E. W. Callendine's Abbaea Callendine, second best, $15; La Siesta Ranch's Loganite, best 2-year-old, $20; A. Heilbron & Bros.' Lizzie Monaco second best, $10; La Siesta Ranch's Ripple, bost filly 1 year old, $5; Henry Pierce's Lily, best suckling filly, $10; James McCaw's Valley Queen, second best, $5.

CLASS 3, ROADSTERS.—*Horses:* G. B. Simpson's Paddy Miles, best roadster gelding, $25; John Eberle's John Yosemite, second best, $15. *Mares:* La Siesta Ranch's brown mare, best 4-year-old and over witb colt, $20; W. A. Sayre's Minnie S, best 4-year-old, $30; W. Mastin's second best, $15; Mrs. E. W. Callendine's Marie, best 3-year-old, $30; Charles McKay's Nellie, second best, $15; A. Heilbron & Bros.' Vanity, best 2-year-old, $20; J. M. Henderson, Jr.'s Edna May Blossom, second best, $10; T. Christie's Irene Marvin, best 1-year-old, $10; A. D. Miller's Lilian, second best, $5.

CLASS 4, COACH HORSES.—*Horses:* A. B. McRae's Duke, best stallion 4 years old and over, $40; H. H. Wilson's Prince, second best, $20; A. D. Miller's Sid, best 1-year-old, $15; H. S. Modison's Ned, second best, $7.50; A. B. McRae's Prince, best suckling $10; H. H. Wilson's Richard, second best, $5; A. D. Miller's Eclipse, best gelding, $25; A. B. McRae's Tom, second best, $15 *Mares:* H. H. Wilsou's Betty, best 4-year-old and over with colt, $40; A. B. McRae's Daisy, second best, $20; Thomas Coulter's Mabel R. best 4-year-old, $30; H. H. Wilson's Speckle, second best, $15; H. H. Wilson's Maggie May, best 3 year-old, $30; A. D. Miller's Kitten, second best, $15; H. H. Wilson's Dulcey Belle, best 2-year-old, $20; A. B. McRae's Daisy, second best, $10; H. H. Wilson's Nelly, best filly 1 year old, $10; A. B. McRae's Tilly, second best, $5; H. H. Wilson, best suckling, $10; A. B. McRae's Bess, second best, $5.

CLASS 5, CARRIAGE TEAMS.—F. A. Lafferty, best span, $40; Josepb Sims, second best, $20.

CLASS 6, ROADSTER TEAMS.—A. Heilbron & Bro., best, $10; Henry Klemp, second best, $20.

CLASS 7, NORMANS.—*Stallions:* George Hennigan's Jumbo, best 4-year-old and over, $40; Thomas Coulter's Sampson, second best, $20. *Mares:* H. H. Wilson's Fanny, best 4 years and over with colt, $40; H. S. Modison's Kate, second best, $20; D. A. Lindley's Kate, best 4-year-old, $30; A. B. McRae's Belle, second, $15; A. B. McRae's Fanny, best 3-year-old, $25; H. S. Modison's Flora, secodd, $12.50; H. H. Wilson's Belle, best 2-year-old, $15; A. B. McRae's Lizzie, second, $7.50; A. B. McRae's Nellie, best filly, $10; H. H. Wilson's Jessie, second, $5; H. H. Wilson, best suckling, $10; H. S. Modison's Susie, second, $5.

CLASS 8, SUFFOLK PUNCH.—*Stallions:* H. S. Modison, best suckling, $10; H. H. Wilson, second, $5. *Mares:* H. H. Wilson's Dolly, best mare 4 years old and over with colt, $40; H S. Modison's Queen, second best, $20; Tbomas Coulter's Topsy, best 4-year-old, $30; H. H. Wilson's Belle, second, $15; Tbomas Coulter's Rosie, best 3-year-old, $25; H. H. Wilson's Anule, second best, $12 50; H. S. Modison's Susie, best 2-year-old, $15; H. H. Wilson's Kate, second, $7.50.

CLASS 9, CLYDESDALES.—*Stallions:* T A. Nufer's Pollock, best 4 years old and over, $40; H. S. Modison's Conqueror, second best, $20; J. E. Meadows' George M, best 2-year-old, $20; J. E. Meadows' Bobolink, second best, $10; T. A. Nufer's Clyde Boy, best 1-year-old, $7 50; T. A. Nufer, best suckling, $5. *Mares:* T. A. Nufer's Jule, best 4 years old and over witb colt, $40; H. H. Wilson's Minnie, second, $20; J. E. Meadows' Elsie, best 4-year-old, $30; A. B. McRae's Belle, second, $15; A. B. McRae's May, best 3-year-old, $25; H. H. Wilson's Tillie, second, $12.50; J. E. Meadows' Maggie, best 2-year-old, $15; A. B. McRae's Daisy, second, $7.50; J. E. Meadows' Jess, best filly, $5; H. H. Wilson's Josie, best suckling, $5.

CLASS 10, ENGLISH SHIRE.—*Mares:* H. H. Wilson's Kit, best 4 years old and over witb colt, $40; H. S. Modison's Pet, second, $20; H. S. Modison's Susie, best 4-year-old, $30; H H. Wilson's Myrtle, second, $15; H. H. Wilson's Minnie, best 3-year-old, $25; A. B. McRae's Pet, second, $12.50. *Walking Stallions:* T. A. Nufer's Pollock, best, $20; H. S. Modison's Conqueror, second, $10.

CLASS 11, SADDLE HORSES.—A N. Buchanan's Buck, best, $20; L. A. Devine's Yerba Buena, second, $10.

CLASS 12, MULES.—*Span:* H. W. Tilton, best matched, $20; H H. Wilson, second, $10; H. W. Tilton's Charley, best 2-year-old, $15; H. W. Tilton's Cad, best 1-year-old, $10; H. W. Tilton, suckling, $5.

CATTLE.

FAT STOCK PREMIUMS.—A. Heilbron & Bros. 'Duchess of Wildflower, best barren heifer, $10.

CLASS 1, DURHAMS.—*Bulls:* A. Heilbron & Bros.' Cup Bearer, best 3-year-old and over, $30; V. E. Hill's Julius, second best, $15; Baden Stock Farm's Baden Duke 28, best 2-year-old, $20; A. Heilbron & Bros.' King Aberdeen 12th, best 1-year-old, $15; King Aberdeen 11tb, second best, $7.50; Baden Stock Farm's Red Rover, best calf, $10; A. Heilbron & Bros.' King Aberdeen 14tb, second best, $5. *Cows:* P. H. Murpby's Lady Alice, best 3-year-old and over $30; A. Heilbron & Bros.' Viscountess Aylesby, second best, $15; Water Cloud, best 2-year-old, $20; Water Foam, second best, $10; Queen Aberdeen 17tb, best 1-year-old, 15; Baden Stock Farm's Eliza Queen, second best, $7.50; A. Heilbron & Bros' Queen Aberdeen 20th, best calf, $10; Matron, second best, $5. *Herds:* A. Heilbron & Bros.' 10tb Lord of Aberdeen, best old herd, $40; King Aberdeen 12tb, best young berd, $20; King Aberdeen 15th, best calf herd, silver medal. *Sweepstakes:* A. Heilbron & Bros.' 10tb Lord of Aberdeen, best bull any age, $48; Water Cloud, best cow any age, $52.

CLASS 3, HEREFORDS.—*Bulls:* John Spark's Earl of Shadeland, best bull 3-year-old and over, $15; Major 10tb, best 2-year-old, $10; Roseland 14th, best 1-year-old, $15; Charlie Lane, second best, $7.50; Duke of Alamo, best calf, $10; A. Heilbron & Bros.' Richard 14tb, second best, $5. *Cows:* John Spark's Miss Wilton, best 3-year-old and over, $30; Breeze of the Grove second best, $15; Saint Bess, best 2-year-old, $20; A. Heilbron & Bros.' Minnie H., second best, $10; John Spark's Elfreda, best 1-year-old, $15; Madam Twinrose, second best, $7.50; Miss Pyramid, best beifer calf, $10; Queen of Alamo, second best, $5; Earl of Shadeland and 4 cows, best herd of 2-year-old and over, $40; Cbarlie Lane and 4 cows, best young herd, $20; Duke of Alamo and 4 calves, best calf berd, silver medal. *Sweepstakes:* John Spark's Lord Fulton, best bull any age, $60; Miss Wilton, best cow any age, $60.

CLASS 4, ANGUS OR GALLOWAYS.—*Bulls:* E. J. Elliot's Dan of Dee, best 3-year-old, $15; Consul, best calf, $10; Jean, second best, $5. *Cows:* E. J. Elliot's Darling Flora III, best 3-year-old aud over, $30; Darling Ruby 2d, second best, $15; Lady C., best 2-year-old, $20; F. A. Johnson's Flora Fleet, second best, $10; E. J. Elliot's Darling Ruby 14tb, best 1-year-old, $15; Coquette of Argonaut, second best, $7.50; Darling Ruby 14tb, best heifer calf, $10; Lady A.'s, second best, $5. *Herds:* E. J. Elliot's Dan of Dee and 4 cows, best old herd, $20; Consul and 4 cows, best uuder 2 years, $20; F. A. Johnson's Meteor and 4 calves, silver medal. *Sweepstakes:* E. J. Elliot's Dan of Dee, best bull any age, $48; Darling Flora, best cow any age, $48.

CLASS 6, HOLSTEINS.—*Bulls:* F. H. Burke's Sir Walter of Clotbilde, best 3-year-old aud over, $15; Tirania II Zozo Paul, best 1-year-old, $7.50; Promise Me, best calf, $5. *Cows:* F. H. Burke's Windward, best 3-year-old and over, $15; Marie of La Siesta, best 2-year-old, $10; Maid of La Siesta, best 1-year-old, $7.50; Hight Utah 5tb, best calf, $5. *Herds:* F. H. Burke's Sir Walter of Clotbilde and 4 cows, best 2-year-olds and over, $20; Tirania II Zozo Paul, best under 2 years, $10; Lou of La Siesta, best calf berd, silver medal. *Sweepstakes:* F. H. Burke's Sir Walter of Clotbilde, best bull any age, $20; Rebecca Egmonde II, best cow any age, $20.

CLASS 8, JERSEYS AND GUERNSEYS.—*Bulls:* Henry Pierce's December of Yerba Buena, best 3-year-old and over, $30; P. J. Shield's Globe of Yerba Buena, second best, $15; Henry Pierce's Ray of Yerba Buena, best 2-year-old, $10; E. Bootb, best 1-year-old, $15; P. J. Sbield's Silverado 2d, second best, $7.50; L. F. Eaton's Mercury of Fl rin, best calf, $10; Lex, second best, $5. *Cows:* P. J. Shield's Lady Zettie, best 3-year-old, $30; Henry Pierce's Arlane, second best, $15; P. J. Sbield's Oleta Alpba, best 2-year-old, $20; Henry Pierce's Jennie June of Yerba Buena, second best, $10; P. J. Sbield's Dorothea E., best 1-year-old, $15; Henry Pierce's Clara of Yerba Buena, second best, $7.50; Alva of Yerba Buena, best beifer calf, $10; L. F. Eaton's Cady E., second best, $5. *Herds:* Henry Pierce's December of Yerba Buena and 4 cows, best over 2 years, $40; P. J. Shield's Silverado and 4 cows, best under 2 years, $20; L. F. Eaton's Lez and 4 calves, best calf berd, silver medal; Henry Pierce's El Toro of Yerba Buena, best bull of any age, $56; P. J. Sbield's Lady Zettie, best cow of any age, $52.

CLASS 8.—*Herd Sweepstakes for Beef Breeds:* John Spark's Earl of Sbadeland and 4 cows, best berd, $90. *Bulls:* John Spark's Earl of Sbadeland, $30; best bull, 3-year-old, $42; Major 10tb, best 2-year-old, $24; Cbarlie Lane, best 1-year-old, $22.50; Duke of Alamo, best calf, $13. *Cows:* John Spark's Miss Wilton, best 3-year-old, $45; A. Heilbron & Bros.' Water Clond, best 2-year-old, $28; John Spark's Elfrida, best 1-year-old, $21; Miss Pyramid, best calf, $14.

CLASS 9, DAIRY PRIZES.—Frank H. Burke's Rebecca Egmonde II, cow, five years old and over, $60; Windward, best three-year-old, $40; Henry Pierce's Pansy of Y. B., second best, $20; F. H. Burke's Pride of La Siesta, best two-year-old, $30; Marie of La Slesta, second, $15.

SHEEP.

CLASS 2, FRENCH MERINO.—J. H. Glide, best two years and over, $10; best one-year-old, $7.50; three ram lambs, $10; best pen five ewes, two years, $10; best pen five ewes, one-year-old, $10; best five ewe lambs, $10; best ram and five lambs, $10.

CLASS 3, SOUTHDOWN.—Geo. Bement & Son's Richard, best ram any age, $10; best pen five ewes, $10: best ram and five lambs, $10.

CLASS 4, PERSIAN.—C. P. Balley, best ram any age, $10; best pen five ewes, $10; best ram and five lambs, $10.

CLASS 6, SHROPSHIRE.—J. H. Glide, best ram any age, $10; best pen five ewes, $10; best ram and five lambs, $10; best three ram lambs, $7.50; best pen five ewe lambs, $7.50.

ANGORA GOATS.

Bucks.—C. P. Bailey's Ramon, two-year-old and over, $15; C. E. Bailey's Baron, second, $7 50; Clive, under two years, $10; C. P. Bailey's Milpitas, second, $5.

Does.—C. E. Bailey, best pen two-year-old aud over, $15; C. P. Bailey, second, $7.50; best pen under two years, $10; C. E. Balley, second, $5.

Graded.—C. E. Bailey, best pen three does two year-old and over, $5.

Flocks.—C. E. Bailey, best berd, $25; C. P. Bailey, secoud, $10.

SWINE.

BERKSHIRE.—*Boars:* Sessions & Co.'s Prince Royal, best two-year-old aud over, $20; P. H. Murphy's Winsome Duke, second, $10. Sessions & Co.'s Regal King, best one-year-old and uuder two, $15; Thos. Waite's Exchange, second, $7.50. Sessions & Co.'s Lord Goldsmith, six months under one year, $10; P. H. Murphy's Queen's Best, second, $5.

Sows.—Sessions & Co.'s Cherry Blossom Sallie III, breeding sow, two-year-old and over, $20; Lynwood Ollve, second, $10. Sessions & Co.'s Gold Lily, best one-year-old and uuder two, $15; J. P. Ashley's Ohio Queen, second, $7.50 Thos. Waite's Silver Queen, six montbs and under one year, $10; J. P. Ashley's The Queen's Daugbter, second, $5. Tbos. Waite's Flora, best sow aud six pigs under six months, $20; P. H. Murphy's Queeu, second, $10. Sessions & Co., best pair pigs under six months, $15; P. H. Murphy, second, $7 50.

Sweepstakes.—Sessions & Co.'s Royal Prince, best boar any age, $24; Cherry Blossom Sallie III, best sow auy age, $24; best berd, $26.

CLASS 2, ESSEX—*Boars:* Geo. Bement & Son's Diablo, best boar two-year-old and over, $10. J. P. Ashley's Moss Rose King, one-year-

old and under two, $15; Geo. Bement & Son's Hugo, second, $7.50. Geo. Bement & Son's Bruno, six months old and under one year, $10; J. P. Ashley's Ben B., second, $5.

Sows.—J. P. Ashley's Bessie, two-year-old and over, $20; L. F. Eaton's Black Topsy, second, $10. Geo. Bement & Son's Black Jane, best one-year-old and under two, $15; L. F. Eaton's Black Jennie, second, $7 50. Geo. Bement & Son's Daisy, six months old and under one year, $10; J. P. Ashley's Black Marie, second, $5. J. P. Ashley's Katie K. If, best sow and six pigs under three months, $20; Geo. Bement & Son's Duchess, second, $10. L. F Eaton, best under six months, $15; J. P. Ashley, second, $7.50

Sweepstakes.—J. P. Ashley's Moss Rose King, best boar any age, $24. Geo. Bement & Sons, Black Jane, best sow, $26. L. F. Eaton, best pen, $26. Geo. Bement & Son, best herd, $26.

CLASS 3, POLAND-CHINA — *Boars:* Sessions & Co.'s Latest Wilkes, best two-year-old and over, $20; P. H. Murphy's Ovation, second, $10. P. H. Murphy's Master Wilkes, one-year-old and under two, $15; Sessions & Co.'s Money Order, second, $7.50. Thos. Waite's Model, six months old and under one year, $10; J. P. Ashley's Prince, second, $5.

Sows.—Sessions & Co.'s Colers Queen, two-year-old and over, $20; Thos. Waite's Best on Earth, second, $10. J. P. Ashley's Belle G., one-year-old and under two, $15; Thos. Waite's Black Bess, second, $7.50. Thos. Waite's Nina Tecumseh, six months old and under one year, $10; Sessions & Co.'s Lucerne, second, $5. P. H. Murphy's Ovation Belle and six pigs under three months, $20; Thos. Waite's Tokay and six pigs, second, $10. S. P. Lindgren & Son, best pair under six months, $15; J. P. Ashley, second, $7.50.

Sweepstakes.—Sessions & Co.'s Latest Wilkes, best boar any age, $24; Colers Queen, best sow any age, $24. J. P. Ashley, best herd. $26.

CLASS 4, SMALL YORKSHIRE—*Boars:* W. A. French's Whiteman, two-year-old and over, $10; Esquimaux, one-year-old and under two, $7.50; Tom, six months old and under one year, $5.

Sows.—W. A. French's Whitelady, two-year-old and over, $10; My Pet, one-year-old and under two, $7.50; White Lily, six months old and under one year, $5; best pair pigs, $7.50; Maid of Monterey, best sow and six pigs, $10.

GOLD MEDALS.

Ed. Purser's exhibit of thoroughbred horses.
J. B. Haggin's exhibit of standard trotters.
Jno. Sparks Hereford cattle.

POULTRY.

Full list of awards published in RURAL PRESS of Oct. 3.

Fifth Department.

DAIRY PRODUCTS AND DAIRY UTENSILS.

CLASS 1, DAIRY PRODUCTS.—C. A. Hull, best dairy butter, $25; Adell Krull, second, $15. Humboldt Creamery Co., best creamery butter, gold medal. Fallon Creamery Co., best cheddar cheese, gold medal; Pescadero Creamery Co., second, $15. Pescadero Creamery Co., best Cal. Flats, silver medal; Fallon Creamery Co., second, $10. Fallon Creamery Co., display of cheese, $20. American Condensed Milk Co., best condensed milk and cream, $12.50.

CLASS 2, DAIRY MACHINERY.—Baker & Hamilton, cream separator, $10; power churn, $5; weighing can, $3; cheese press, $5; curd mill, $3; butter shipping boxes, $2; hand separator, $5; hand butter worker, $2; milk tester, $10; hand churn, $2; milk delivery can, $2. G. G. Wickson & Co., creamery outfit in position, etc., $50; milk and cream vat, $5; power butter worker, $5; moulding and cutting apparatus, $3; cream cooler, $3; delivery can, $2; assistant butter tubs, $5; milk aerator and cooler, $2.

Sixth Department.

HORTICULTURAL PRODUCTS.

SPECIAL PREMIUMS.—A. F. Abbott & Co., most meritorious exhibit of orchard products, gold medal. California Nursery Co., best exhibit, $100; A. F. Abbott, second, $50; Robt. Williamson, third, $25.

CLASS 1, DECIDUOUS FRUITS—*Apples:* California Nursery Co., best display, silver medal and $25; best twelve varieties, $5; varieties not exhibited before, $3. A. F. Abbott, second best display, $15; best five varieties, $3. Robt. Williamson, third best display, $10; best arranged exhibit, $10. Mrs. E. Shields, best packed box, $3.

Pears.—California Nursery Co., best display, silver medal and $25; best twelve varieties, $5; varieties not before exhibited, $3. Robt. Williamson, best arranged exhibit, $10; best five varieties, $3. Tanglewood Farm, best packed box, $3. A. F. Abbott, third best display, $10. Robt. Williamson, second, $15.

CLASS 3, OLIVES.—L. F. Wever, best exhibit, $10.

CLASS 4, VEGETABLE OILS.—California Nursery Co., exhibit olive oil, $50; Gifford & Peters, second, $25; Akerman & Treffley, one variety, $10.

CLASS 5, CULTIVATED NUTS.—California Nursery Co., exhibit chestnuts, $5; walnuts, $30; ten varieties walnuts, $15; almonds, $30; ten varieties almonds, $15; filberts, $8. Robt. Williamson, second best exhibit ten varieties almonds, $15. H. A. Hill second best exhibit almonds, $20. Mary S Kerr, second best exhibit walnuts, $20.

CLASS 6, TABLE GRAPES.—Jos. Sims, best display, silver medal and $25; Mary S. Kerr, second, $15. Jos. Sims, best twelve varieties, $10; Mary S. Kerr, second, $5. Mrs. J. P. Odbert, best five varieties, $5; Jos. Sims, second, $3. Robt. Williamson, best three varieties, $5; Mrs. E. Shields, second, $3.

CLASS 7, DRIED AND PRESERVED FRUITS.—A. F. Abbott, best exhibit dried fruit, $50; best box dried peaches, $5; do, plums, $5; second best box dried peaches (shipment), $3; do, pears, do, $3; best box dried plums (shipment), $5; do, apricots, do, $5; do, nectarines, do, $5. H. A. Hill, second best box dried prunes, $3. Mrs. E. Shields, second best exhibit dried fruit, $25; best box dried apples, $5; second best box dried peaches, $3; do, plums, $3; best box dried prunes, $5; do, apples (shipment), $5; do, peaches, do, $5; do, pears, do, $5; second best box dried plums (shipment), $3; best box dried prunes, (shipment), $5. J. W. Barrett & Co., best box dried pears, $5. Mary S. Kerr, third best exhibit dried fruit, $15; second best exhibit dried prunes, $3; best exhibit dried nectarines, $5; second best packed box nectarines for shipment, $3.

CLASS 9, RAISINS.—J. P. Odbert, best exhibit dried grapes, $10. E. Starr, best display raisins, $15; best display seedless, $10. Mary S. Kerr, second best display raisins, $5; second best display seedless, $5. A. F. Abbott, best packed box, $5.

CLASS 11, MISCELLANEOUS.—California Nursery Co., best display of quinces, $10; pomegranates, $10; medlars, $5; Robert Williamson, second best display of pomegranates, $5; Mrs. E. Shields, third best display of pomegranates, $3; J. W. Barrett & Co., second best display of quinces, $5; Mary S. Kerr, third best display of quinces, $3; Jacob Miller, best display of Alligator pears, $5.

SPECIAL.—*Peaches:* California Nursery Co., best display, $50; second (12 varieties), $5; third (5 varieties), $3; best exhibit of varieties not before exhibited, $10; Robert Williamson, third best display, $15; best arranged exhibit, $10; third best display (12 varieties), $3; second (5 varieties), $5; second best exhibit new varieties, $5; Mrs. E. Shields, best packed box, $5; J. W. Barrett & Co., second, $3; A. F. Abbott, second best display, $25; second best arranged exhibit, $5; best 12 varieties, $10; best 5 varieties, $7.50; second best exhibit ripe olives, $5. *Plums and Prunes:* California Nursery Co., best display, $50; second, 12 varieties, $10; third, 5 varieties, $3; best exhibit of varieties not before exhibited, $10; Robert Williamson, best arranged exhibit, $10; third best display 12 varieties, $3; Mrs. E. Shields, third best display, $15; second, 5 varieties, $5; second, packed box, $5; A. F. Abbott, second best display, $25; second best arranged exhibit, $5; second best 12 varieties, $5; second best 5 varieties, $7.50; best packed box for shipment, $5; second best exhibit of varieties, $5. *Figs:* Robert Williamson, best display, $15; A. F. Abbott, second, $7.50. *Nectarines:* California Nursery Co., best display, $25; best 12 varieties, $5; second, $3; best 5 varieties, $3; second, $2; Robert Williamson, third best display, $10; A. F. Abbott, second, $15; best arranged exhibit, $10.

Eighth Department.

VITICULTURE, ETC.

Wetmore-Bowen Co., most meritorious exhibit, gold medal.

CLASS 1.—*Brandies:* L. B. Roshenberg, best, $12 50.

CLASS 2.—*Dry Wines:* Wetmore-Bowen Co., best Sauterne, $25; Reisling, $25; Claret, $25; Burgundy, $25; general display, $25.

CLASS 3.—*Sweet Wines:* Wetmore-Bowen Co., best Sherry, $25; J. L. Beard, best Angelica, $25; Wetmore-Bowen Co., best Port, $25.

CLASS 5.—*Special Wines:* Wetmore-Bowen Co., best sparkling wine, $10; Orange wine, $10; unfermented wine, $10.

CLASS 6.—*Wine Grapes:* Jas. Sims, best 8 varieties, $25; Mary S. Kerr, second, $25.

CLASS 7.—*Cider:* Mary S. Keir, best cider, $5.

CLASS 8.—*Vinegar:* A. F. Abbott, best cider vinegar, $5; wine vinegar, $5.

CLASS 9.—*Beer:* Buffalo Brewing Co., best lager beer, $10; export beer, $5.

Eighth Department.

FARM PRODUCTS.

California Nursery Co., most meritorious exhibit, gold medal.

CLASS 1, FARM PRODUCTS.—T. W. Barrett & Co., best exhibit $100; Tanglewood Farm, second, $50; Mrs. E. Shields, third, $25.

CLASS 2, TOBACCO.—Clark & Stanley, best display California manufactured tobacco, $12.50.

CLASS 3, FLOUR AND GRAIN.—A. F. Abbott, wheat in ear, $5; Adell Krull, alfalfa seed, $5; Mrs. E. Shields, Australian wheat, white Chile wheat, Chevalier barley, $15; Tanglewood Farm, buckwheat, yellow corn, white corn, display garden seeds, $20; T. W. Barrett & Co., best display garden seeds, $25; A. F. Abbott, best sample white Chile wheat, $5.

CLASS 4, VEGETABLES, ROOTS, ETC.—Adell Krull, display sugar beets, marrow squash, $5; Tanglewood Farm, white onions, Hubbard squash, largest pumpkin, display green corn, mountain sweet watermelon and other variety, cantaloupe, Lima beans in pod, dried white beans, Irish potatoes and other varieties, kidney, pole, and freed beans, gherkin cucumbers, $23; J. W. Barrett & Co., best canning tomatoes, best sack red potatoes, best sack white potatoes, best sack sweet potatoes, display parsnips, carrots, long blood beets, turnips, box tomatoes, Dutch cabbage and other variety, cauliflower, brocoli, lettuce, red onions, yellow onions, peppers, roots of salsify, celery, crookneck squash, muskmelons, cucumbers, garden peas, dried peas, egg plant, $67.50.

CLASS 5, FLOWERS.—California Nursery Co., most attractive exhibit of nursery stock, $50; best exhibit foliage plants, $15; Hugh McWilliams, largest collection flowering plants in bloom, $25; collection new and rare plants, $15; best display pinks, $10; best collection of ferns, $10; best display of bouquets, $25; best display greenhouse plants, $10; best display hanging baskets, $10; Bell Conservatory Co., best collection tube roses, $10; second best display cut flowers, $15; best display cut flower designs, $12.50; Hugh McWilliams, best display cut flowers, $25; best display coleus, $10; Bell Conservatory Co., display fuchsias in bloom, $10; California Nursery Co., display roses in bloom, $10.

THE DAIRY.

Home Manufacture of Cheese.

The old doctrine and the sound policy of making the farm feed the household, as far as practicable, is winning wider allegiance each year in California. Well made cheese is a good, strong food and will support hard workers. When milk is available, cheese can be put by for future use, and a description of home-made cheese, using for the most part home-made devices, will be helpful to many readers of the RURAL. W. D. Hudson gives the *Epitomist* an account evidently drawn from his experience.

The Milk.—Milk for cheese must be made from pure water and a good quality of grass, and no bitter or astringent leaves or weeds. Milk that is the least sour must not be used. Milk too old can be told by setting a tin cup of it on a warm stove. If it curdles in the bottom of the cup, it is soured and not fit for cheese.

Makeshift for Vat.—Take a large dishpan, or metallic washtub; set over the stove with a little water in it; then take a smaller dishpan, setting into the first vessel, thus making a vat that will do in place of one costing several dollars. Do not move any griddles from top of stove when this home-made vat is set on.

A small amount of milk may be made into cheese if the expense attending is not too great. We will begin by putting the night's milk into our vat. Say we have four gallons of last night's milk. Now, just here is a kink that I want to speak of. Skim the cream off the night's milk into a little tin pail and stand aside till the morning's milk is ready for the vat, too. Say we have two gallons morning's milk, making six gallons in all, and all in the vat but the little pail of cream.

Raising the Heat.—At the same time you are warming the milk in the vat take a small pan or kettle of warm water, in which stand the little pail of cream, and warm the cream to 95° by the thermometer and no more. When the milk in the vat rises to 82° by the thermometer (and try to have this happen at the same time), turn the cream into the milk in the vat, stirring them together, and you can not tell they were ever separated. When the cream is warming in the little pail, stir it with a spoon.

Rennet Tablets.—The milk being in the vat and the heat at 82° or 84°, we are ready for the rennet or pepsin. I used to prepare the rennet in the old way. You better buy rennet tablets for cheese making of some dairy furnishing house in Chicago or other city, and use according to directions on tablets. Insert the thermometer into the milk in the vat to know the heat. Remember only a little over 98° are ever used by an experienced cheese maker if all is right. The rennet being in the milk, stir it lightly, at least stirring only a little at the top to keep the cream from rising; when it begins to roll heavily, stop. It will take from 15 to 30 minutes to curd or congeal the milk.

When to Cut the Curd.—When you run your forefinger into the curd and hook the finger as you raise it out, and it breaks square and smooth over the finger, and the white whey does not run out of the curd, then cut it. Curd cutting is usually done with a gang of blades centering in one handle. But in the absence of any better implement, a long-bladed knife that will reach the bottom of the milk will do it.

Cut the curd every half inch, from top to bottom, both ways, as rapidly as possible. After having been cut a few minutes, the whey will rise and curd incline to sink. Then run your hand down the side of the vat and on the bottom to loosen the curd from sides and bottom of vat.

Next spread a strainer-cloth over top of vat, letting the strainer-cloth bag down into the curd; now, with a dipper, dip out half or two-thirds of the whey, leaving the remainder to perfect the curd in.

Heat and Acid.—If there is no acid, raise the heat but little only. Good cheese cannot be made without some acid in the whey. Acid may be detected by taste, smell or otherwise. Acid may be told by running the hand down the side of the vat, pressing the fingers on side of vat. If the fingers squeak, you will know acid is present. Acid should be in the whey only. Cooking of the curd must be done before the acid is much developed.

When to Dip out the Curd.—Next and most important of all is to know just when to dip the curd out of the vat into the basket or sink. As 98° or 98½° is the point aimed at, all other things being right, the curd is to remain cooking till it will try correctly as to being cooked and soured by the hot iron process.

The iron must be hot enough to sear, not red hot, though hot enough to toast cheese. I used to squeeze a handful and tell by its elasticity as to the curd being cooked enough. If cooked enough, it will spring or show some elasticity as the hand opens. But take this squeezed handful of curd, touch this searing hot iron to it for a moment or so, till it begins to melt and adhere to the curd, then slowly pull the iron from the curd. If the curd is raw and sweet, it will break short off from the iron and appear crumbly. Too little acid will show very short, thread-like strings from the hot iron. As acid increases the strings increase. At the correct development of acid the threads will be numerous and fine, from 1 to 2 inches long, which is the right stage of development to dip the curd. After this the strings get longer and fewer, which indicates too sour or too much acid.

Home-Made Box Strainer.—As the old cheese basket is not present, with strainer-cloth over it, we will make a box 16 or 18 inches square, 6 inches deep, with bottom made up of slats 1 inch square nailed on bottom ½-inch apart, and we have the basket. Set it over a common washtub, with two sticks over the tub for the box to rest on, with a yard or so of common cotton strainer cloth spread over the top ready to begin straining the whey from the curd. Dip the curd, whey and all, into the strainer at the same time, work the curd carefully with your hands to keep it from forming a solid mass, working it until it is clear of whey or quite dry, and quite broken to pieces like shelled corn and a little larger; also nearly cold.

Use Good Dairy Salt.—Salt at the rate of two-fifths of an ounce of salt to one pound of cheese, which equals four ounces of salt for ten pounds of cheese. Sprinkle the salt on the curd, working it in carefully.

Ready for the Hoop.—Hoops are like a peck or half-bushel measure without a bottom. A box 6 or 8 inches square will do; 6 or 8 inches deep. Any tinner can make a hoop 6, 8 or 10 inches in diameters, 6, 8 or 10 inches in depth, out of heavy sheet iron by riveting ends together and leveling the heads of rivets inside, so as not to interfere with the cheese or follower on the inside.

Place two handles on outside about one-third down from top. Make your own followers.

For bandage get cheap, thin muslin.

Make the bandage to fit the hoop on inside, opening like a common sack at one end; the other end made to fit the hoop, or like a bucket, to set in the hoop. Set this bandage, or sack, into the hoop and fill in the curd; close the upper end of bandage, or sack, by folding down towards center of hoop, then press it.

Home-Made Press.—Take a 2x4, 3x4, or a pole 8 or 10 feet long for a lever, place one end under some substantial weight; 1½ or 2 feet from the short end on under one side place the cheese to be pressed. For weight for lever use an old basket or pail filled with stone, old iron, or any weight handy. Do not press the cheese very hard at first, or the white whey will run, which is the richest part of the cheese. As more weight is wanted, run the weight towards the outer end. After cheese has been in press two or three hours, it should be looked to and turned; if all right, it may be left in press 24 to 36 hours. When taken out of press, rub over melted hot butter with a swab; lastly, rub with the bare hands. Cure on a shelf in a room where the warmth is about 72°, or comfortable to live in. Rub the cheese every day, first week with the bare hands; as it gets older you may rub less often.

Sweet Potatoes for Cow Feed.

S. Powers of Florida writes to the *Country Gentleman* an account of a dairyman who believes in sweet potatoes, which may interest people in the valley where this esculent thrives: Mr. Donk values sweet potatoes above every other article of feed. Rutabagas make a cow poor and her milk watery. Cottonseed meal or the seed is an excellent feed to make butter or cheese firm, causing butter to stand up in the hottest weather; but one has to keep carefully within certain limits in feeding these, or they will impart to the butter a disagreeable flavor. As a professional butter maker, it would give him pleasure to make solid butter in July; but he cannot afford to sell it for 25 cents (which those who feed cottonseed are forced to accept), while by not using it he can and does receive 30 cents the year round. Cottonseed used to be so cheap that it would probably have

paid to feed it for butter at 25 cents; but it is getting to be so much in demand for the manufacture of oil and fertilizer that sweet potatoes may be the cheaper feed, especially when yielding butter which will command 5 cents more per pound.

Tuberculous Cows in Oakland.

Oakland is doing something with cows and tuberculin and the city veterinarian, Dr. Pierce, has been talking with reporters about it. Dr. Pierce contrived to get the consent of a score of dairymen to have certain of their cows killed and examined as a test. The greater number came from a dairy which had running water and clean sheds, and the result of the work is therefore considered the more satisfactory. In spite of the fact that the animals were kept in the best of condition and amid surroundings which could scarcely be improved, they displayed symptoms of tuberculosis.

"If the mayor goes out to a ranch," said Dr. Pierce, "and sees that it is well kept, and then notes how sleek and plump the cows appear to be, he is apt to conclude at once that they are in the pink of health.

"That is no way to judge things. We find the worst cases of tuberculosis on the best kept ranches. The disease generates in a way that is not generally understood, and that a careful examination will in no way make clear.

"We must weed out the diseased animals, and if it has to be done at considerable cost we can afford it much better than a possible epidemic.

"Some of the cows upon which we have held an autopsy have appeared to be in the best of health.

"Without the tuberculin test, which I think is indispensable to our public health in the long run, the cows would simply waste away, and so gradually that vast harm would have been done by a distribution of their milk before death overtook them."

In speaking of the result of the several examinations made Dr. Pierce, together with his assistant, Dr. Archibald, explained that many of the animals were fat enough to be marketed when their flesh was found to be diseased.

THE POULTRY YARD.

Suggestions About Practice.

A chapter on the common affairs of the poultry yard may be wearisome to those of long experience, but to the beginners such suggestions are welcome. It is for such readers that we compile from a recent publication by the U. S. Department the following general hints upon practice.

A Hint from Nature.—In feeding for egg production a valuable lesson may be learned from nature. It will be observed that our domestic fowls that receive the least care and attention, or, in other words, whose condition approach more nearly the natural conditions, lay most of the eggs in the spring time. It is our duty then, as feeders, to note the conditions surrounding these fowls at that time. The weather is warm, they have an abundance of green food, more or less grain, many insects and plenty of exercise and fresh air. Then, if we are to feed for egg production, we will endeavor to make it spring time all the year round, not only to provide a warm place for our fowls and give them a proper proportion of green food, grain and meat, but also to provide pure air and plenty of exercise.

Choice of Grains.—Farmers who keep only a small flock of hens, chiefly to provide eggs for the family, frequently make a mistake in feeding too much corn. It has been clearly proven by experiment that corn should not form a very large proportion of the grain ration for laying hens; it is too fattening, especially for hens kept in close confinement. Until the past few years corn has been considered the universal poultry food of America. This, no doubt, has been largely brought about by its cheapness and wide distribution. The recent low prices of wheat have led farmers to feed more of this grain than formerly, and with a consequent improvement in the poultry ration.

When comfortable quarters are provided for the fowls the nutritive ratio of the food should be about one-fourth; that is, one part of protein or muscle-producing compounds to four parts of carbohydrates or heat and fat-producing compounds. Wheat is to be preferred to corn. Oats make an excellent food, and perhaps come nearer the ideal than most any other single grain, particularly if the hull can be removed.

Buckwheat, like wheat, has too wide a nutritive ratio if fed alone, and produces a white flesh and light-colored yolk if fed in very large quantities. In forcing fowls for egg production, as in forcing animals for large yields of milk, it is found best to make up a ratio of many kinds of grain. This invariably gives better results than one or two kinds of grain, although the nutritive ratio of the ration may be about the same. It has been found by experiment that the fowls not only relish their ration more when composed of many kinds of grain, but that a somewhat larger percentage of the whole ration is digested than when it is composed of fewer ingredients. It has been clearly proven by experiment that food consumed by the fowls influences the flavor of the eggs; that in extreme cases not only to the flavor of the food imparted to the eggs, but also the odor. This of itself is sufficient reason for always supplying wholesome food for the fowls and seeing to it that none but wholesome food is consumed.

Soft Food.—It is conceded by the majority of poultry men that ground or soft food should form a part of the daily ration. As the digestive organs contain the least amount of food in the morning, it is desirable to feed the soft food at this time, for the reason that it will be digested and assimilated quicker than whole grain. A mixture of equal parts, by weight, of corn and oats, ground, added to an equal weight of wheat bran and fine middlings, makes a good morning food if mixed with milk or water, thoroughly wet, without being sloppy. If the mixture is inclined to be sticky, the proportion of bran should be increased. A little linseed meal will improve the mixture, particularly for hens dur- the moulting period, or for chickens when they are growing feathers. If prepared meat scrap or animal meal is to be fed, it should be mixed with this soft food in proportion of about 1 pound to 25 hens. It will be necessary to feed this food in troughs to avoid soiling before it is consumed.

How to Feed Grain.—The grain ration should consist largely of whole wheat, some oats, and perhaps a little cracked corn. This should be scattered in the litter, which should always cover the floor of the poultry house. It is necessary to have the floor of the poultry house covered with a litter of some kind to insure cleanliness. Straw, chaff, buckwheat hulls, cut corn stalks all make excellent litters. The object of scattering the grain in this litter is to give the fowls exercise. All breeds of fowls that are noted for egg production are active, nervous, and like to be continually at work. How to keep them busy is a problem not easily solved. Feeding the grain as described will go a long way towards providing exercise. If the fowls are fed three times a day, they should not be fed all they will eat at noon. Make them find every kernel. At night, just before going on the perches, they should have all they will eat up clean. At no time should mature fowls be fed more than they can eat. Keep them always active, always on the lookout for another kernel of grain.

Grain Food.—While perhaps not strictly necessary for their existence, some kind of green food is necessary for the greatest production of eggs. Where fowls are kept in pens and yards throughout the year, it is always best to supply some green food. The question how to supply the best food most cheaply is one that each individual must solve largely for himself. In a general way, however, it may be said that while the fields are bare, mangel-wurzels may be fed to good advantage. The fowls relish them, and they are easily prepared. As it is not difficult to grow from 10 to 20 tons of these roots per acre, their cost is not excessive. In feeding these beets to flocks of hens a very good practice is simply to split the root lengthwise with a large knife. The fowls will then be able to pick out all of the crisp, fresh food from the exposed cut surface. The large pieces have the advantage over smaller pieces in this respect. The smaller pieces, when fed from troughs or dishes, will be thrown into the litter and soiled more or less before being consumed by the fowls, and, in fact, many pieces will become so dirty that they will not, nor should they, be eaten. Large pieces cannot be thrown about and remain clean and fresh until wholly consumed.

Clover is perhaps one of the cheapest and best foods. It is readily eaten when cut fine in a fodder cutter, and furnishes a considerable amount of nitrogen. If clover is frequently mowed, fresh food of this kind may be obtained all summer, particularly if the season be a wet one. Should the supply of clover be limited or the season unusually dry, green food may be cheaply and easily grown in the form of Dwarf Essex rape. This should be sown in drills and given the same cultivation as corn or potatoes. When the rape is from 8 inches to a foot in height it may be cut and fed. It furnishes a fresh, crisp food that is readily eaten. If cut a few inches from the ground, a second and sometimes a third crop will be produced from one seeding. Alfalfa will also furnish an abundance of green food. It must, however, be cut frequently, each cutting being made before the stalks become hard or woody.

A good quality of clover hay cut fine and steamed makes an excellent food for laying hens if mixed with the soft food.

Cabbages can be grown cheaply in many localities and makes excellent green food as long as they can be kept green and crisp. Kale and beet leaves are equally as good and are readily eaten. Sweet apples are also suitable, and, in fact, almost any crisp, fresh, green food can be fed with profit. The green food in many instances may be cut fine and fed with the soft food, but, as a rule, it is better to feed separately during the middle of the day in such quantities that the fowls have about all they can eat at one time.

The bulletin also shows the necessity of furnishing grit when fowls are confined and meat of some kind to take the place of insect food. Fresh-cut raw raw bone is properly recommended.

Why Egg Prices Are Low.

We gave last week a portion of E. O. Roessle's study of the egg situation in Eastern cities. After that he proceeds to consider the question placed above, and asks further why, if we import $5,000,000 worth of eggs, and are constantly short of the demand, are prices so low?

The Season's Fluctuations.—Last spring fresh eggs retailed in Albany at 10 cents per dozen, stood at 12 cents for some weeks, and then rose to 15@17 cents, and continued so until August 15th. Last winter the average price from October to March was 30 cents. These prices for fresh eggs seem ridiculous, but can be explained by the very inferior quality offered. In reality the eggs were not worth much more than these prices, as, except in the spring, they were not at all to be relied on. The different processes for preserving and keeping eggs over from spring when they are plenty, through winter and until spring again, are too numerous to mention. Of course, this is all for the one purpose of supplying the demand during the season when eggs are the scarcest, and they are in as great demand during the cold winter months as at any other time of year, and naturally it seems the most rational thing to do to preserve them when they are plenty. The marketmen might ask how we propose to change this order of things. The only remedy is to improve the general quality by producing eggs in winter and offering them as fresh. This is not the difficult task it used to be. Some years ago it was almost impossible to obtain fresh eggs during the winter months, but now, with the great advance of poultry culture, it has become a comparatively easy matter.

How to Get Winter Eggs.—All that is necessary is to care for your hens as well as you would care for some of your other live-stock. House them comfortably, feed them regularly and study their habits, and the eggs will come fast enough. A healthy flock will lay one-third eggs in winter as against one-half in summer. For example, 300 hens should lay about 100 eggs per day in winter and average 150 per day in spring and summer. If the supply is not quite as large in winter as in summer it will simply make the prices a little higher, but the quality can always be relied on. In Europe fresh eggs are never cheap. In London 2s (50 cents) per dozen is about what is generally paid, and it varies but little the year round.

Market Prices Beaten.—We must admit that the market prices which obtain in the different cities offer but little inducement to the farmer to increase his poultry business. Yet he must not be misled by these prices and be one of a number to add to the already poor quality by bringing to market any and all eggs he may gather. To the marketman an egg is an egg; hence price hardly enters into the matter at all. To the honest and conscientious farmer a fresh egg is the only kind he should have to offer. Let him once establish a reputation for having strictly fresh eggs, and he will find he can about make his own price irrespective of any general market.

Cost of Eggs.—It is stated by many writers in poultry journals that it only costs 12 cents per dozen to produce eggs. This may be true during summer, when hens are given free range and are left to shift for themselves and eat what they can find; but it costs more than this if stock be properly housed, yarded and fed summer and winter solely for egg production, thereby insuring the best quality and by far the greatest quantity. A guaranteed quality should never be sold for less than 20 cents in summer and at least 35 cents in winter. Let any who are in the business for eggs try this system of properly caring for their hens, so that when they gather an egg they can vouch for its being laid that day, and they will find no difficulty in getting customers willing to pay the better prices I mention.

Eggs Worthy of the Country.—The United States, with its vast territory, with its rapidly increasing population and its wonderful natural resources, should be the greatest egg-producing country on earth. We can produce not only enough eggs for our own consumption, but can in a short time export them to England and other countries. But we must start anew and have for our watchword, "Improve the quality." Improved quality, strictly fresh eggs, means higher prices and an extended trade.

THE FIELD.

Ground Water and Crops.

In many parts of California very good results are obtained with deep rooting plants where the surface is dry, if there is an underflow of water which brings

moisture within the reach of roots. Such land is usually called "sub-irrigated land" in this State. That such land is good to have even in a humid climate is coming to be clearly recognized. Prof. F. H. Storer, a distinguished authority on agriculture, and for many years a professor of agricultural chemistry in Harvard University, writes interestingly in one of his books on this subject.

Good Crops on Sand.—Some interesting examples, where the presence of ground water at just the right height makes the cultivation of mere sands possible, are recorded by Boussingault. In a certain district in Spain there were a number of sand dunes composed of sand so loose and dry that it drifted hither and thither in the wind. But since the lower portions of these hills were kept continually moist by the infiltration of water from the Guadalquiver, it was only necessary to remove the loose sand from above the moistened layer in places where no great amount of labor was required in order to obtain some very fertile land. The soil united in the very highest degree two essential conditions of fertility, porosity and constant supply of moisture. The climate, moreover, was specially well suited for land thus moistened, and it was found, in fact, that the level dunes yielded abundant crops, particularly when the sand was manured. This instance is closely related to the so-called method of sand culture, which has been successfully employed in many scientific experiments. One great merit of the method, as has been urged by Hellriegel, depends on the remarkably complete manner in which the roots of plants develop in the incoherent sand. A perfectly developed system of roots occupying every part of the soil proper to it must manifestly be particularly well fitted for taking nourishment from the soil, and from the water that comes to it.

A New England Instance.—On the bank of the Merrimac river, on the line of the railway, not far from Concord, N. H., mere sand lying upon high banks upon the river's banks yields crops in spite of the very unpromising appearance of the land. The explanation in this case appears to be that the sand is fine enough to be capillary, and that the ground water is continually percolating through the bluff towards the river at a depth from the river not too great to put it out of the reach of the crops. Indeed, the history of the improvement of sand dunes by plantations of trees is full of instances of the advantages to be derived from the ground water when it is near enough to be accessible to the roots. The idea is simply that where there is ground water within reach trees can be started, and wherever this can be done the action of wind upon the loose sand in the vicinity can be checked and the dunes thus be kept quiet enough to admit of grass and finally trees being grown upon them. In Holland the best possible potatoes are grown on sand dunes, thanks to the presence of ground water and the free use of manure.

Value of an Impervious Layer.—In some localities the presence of beds of clayey loam, at a depth of a few feet beneath the surface, permits profitable crops to be grown continually, although nothing but sand is to be seen where the plants are standing. It is manifest in such cases that the capacity of the subsoil to hold a store of moisture is the salvation of the farmer. Upon the slopes of hills there is generally a strong probability that somewhere on some part of the slope ground water may be found at a good height. It is for this reason, doubtless, as much as on account of the soil that has been washed down from above, that so many of the hill farms of New England are situated near the bases of sloping hills. Indeed, it might almost be urged as a general rule that the positions of homesteads and of farms in northern New England have been determined by the position and character of the ground water as much or more than by the quality of the soil. The house was put where water could be got handily; but where water can be got handily crops will flourish.

HORTICULTURE.

Experiments in Soil Evaporation at Riverside.

The East Side Horticultural Club of Riverside held its first meeting for the season Sept. 23, at the residence of Prof. Zumbro, on Chicago avenue, President Kyle in the chair.

Loss of Water.—Prof. Zumbro gave the address of the evening. His topic was, Surface Evaporation in Orchards. He had been making some experiments with portions of soil saturated with water, and then weighed daily to determine the loss by evaporation during the heat of summer. The results are somewhat surprising. Fifty-nine pounds of earth, containing 18 pounds of water, lost in four days, from August 9, 5.25 pounds of water. The earth was cultivated August 15 and during the next day lost only a quarter of a pound of water. Many other experiments were detailed, tending to the same conclusions.

Water Required.—Prof. Zumbro stated that the best amount of water in the soil for the growth of leguminous and other plants had been fixed by experiment at 40 per cent of the amount required for saturation. About 400,000 pounds of water will saturate one acre one-foot deep. Forty per cent of this would be 160,000 pounds. The ordinary allowance for one acre, $\frac{1}{5}$ of a miner's inch, would be 125,800 pounds. But the best proportion of water for citrus trees may not be the same as for smaller plants, and experiments have not yet determinde it.

Among other interesting facts it was stated that while air dry earth at 100° fahrenheit contained 2.8 per cent of water, the soil, 6 inches deep and 6 feet from orange trees, was found to have only 3.7 per cent in August, 26 days after irrigation. Trees that were showing by wilting their need of water had at one-foot deep from 4 to 6 per cent of water and at 1½ feet 6½ per cent, the soil dry and crumbling.

Preventing Evaporation.—To prevent waste of water by surface evaporation Professer Zumbro suggested, first, sub-irrigation, delivering the water below the surface; second, cultivating as soon as possible after irrigation, to break up the compactness of soil that favors capillary action, which brings up the water to the surface; third, to keep the surface between the furrows from getting wet, by making the furrows deep; fourth, to prevent the formation of a hard stratum just below the cultivation, and this, he thought, might be done by varying the depth of cultivation from time to time. He would cultivate twice after each irrigation, first across and then along the furrows.

Professor Zumbro was requested to continue his experiments and to treat of the topic further at a future time.

FRUIT MARKETING.

California Fruit in London.

It has already been intimated in the RURAL that this year's fruit shipments to Great Britain have been disappointing in results. A writer for the New York *Sun* gives a review of the season, which will be interesting to our readers.

The shipment of California fruits to London this year began about the middle of July, when a consignment of 4000 boxes of pears and plums from Sacramento was transported over the sea in the American line steamship St. Louis. English buyers had been rendered cautious by their experience in other years, and the prices obtained for the fruits in the London market were unsatisfactory to the sellers. Complaint was made that some of the boxes were damaged, and that both the pears and plums were too small to command good prices. The average selling price of the pears, which were Bartletts, was from $1.32 to $1.92 per box of fifty pounds, and the plums were sold for $1.80 per crate. Making allowances for freight, insurance and cost of handling, the prices realized were lower than those prevalent here.

At the sale in London on the last day of July the pears brought $1.38 to $1.80, while the plums brought $2.28, an advance upon the price at the previous sale.

Two weeks later a consignment of 10,000 half cases from California, consisting of peaches, pears and plums, arrived in London. They were of superior size and quality and in fine condition. Nevertheless the selling price was very low. The peaches ranged from 84 cents to $1.56, the plums from 72 cents to $1.92, William pears from 72 to 84 cents, and Hardys were disposed of at $1.44. Large lots were taken by German and Russian buyers. It was said that prices were depressed on account of the abundance of French and English fruits in the London market. The fourth consignment, which consisted of 4280 half cases, was offered in London on August 21. The prices were again poor, buyers declaring that the fruits were over-ripe: pears 78 cents to $1.32, peaches $1.08 to $1.68, and plums $1.26 to $1.40.

A week later 5000 half cases arrived in London from California. Prices were even lower than in the previous week, though the fruit was in good condition: peaches 72 cents to $1.24, pears 48 to 84 cents, plums 48 cents to $2.04 for a very superior quality. There were again great quantities of French and English fruits in the London market. In the first week of September a consignment of 5000 half cases from California was put up at auction in London. The prices realized were better than at the previous week's sale, owing to a scarcity in the market: peaches $1.08 to $1.32, pears 90 cents to $1.32, plums $1.74. All the fruits were excellent, excepting a lot of Clairgeau pears, which were small and hard and brought only 78 cents.

The reports of later sales are not at hand. The prices obtained at the several sales since the first consignment was delivered in July have certainly been discouraging to the California fruit raisers, as also to the exporters. Last year's prices were poor, and this year's also have been poor.

Much more money has been lost than made in the exportation of California fruits to London. A number of determined capitalists, however, are engaged in the trade, and some of them expect better times in it hereafter. They are deserving of success.

FLORIST AND GARDENER.

Growing Everything for the Family on the Ranch.

By S. C. DONDORE of Lakeside, San Diego County, at the El Cajon Farmers' Institute.

There is no subject of such vital importance from an economic standpoint, and none that concerns the agriculturist and horticulturist so much as the growing of everything that the family needs, as far as is practical. Every family in this civilized country needs flour, meat, lard, milk, butter, eggs, vegetables, berries and other kinds of fruits if they desire to enjoy good living. The horticulturist whose ranch is nearly or wholly occupied in fruit raising will not find it practical to raise grain or stock to furnish him flour, meat and lard, but with plenty of water to irrigate he can grow all his vegetables, berries and other kinds of fruits for family use, and enough feed, such as beets, corn, alfalfa, and some grain for hay, to support his chickens, cow and team, while the agriculturist whose ranch is occupied in raising grain and stock, can get his own flour, meat and lard, and grow everything the horticulturist does for the family.

Lessons of Experience.—As it is the object of this convention to impart practical information, I will give my experience as to what and how we grow things for the family on the Fairview ranch in Flinn valley. We keep a cow for milk and butter; chickens for eggs and to eat; a family orchard with all the varieties of fruits generally raised, such as apples, apricots, peaches, nectarines, pears, plums, prunes, quinces, cherries, grapes, mulberries, figs, olives, oranges, lemons, persimmons, walnuts, pecans, almonds and pomegranates; a berry patch of Gregg's Black and Turner's Red raspberries, Loganberry, Crandall's Early and Evergreen blackberries, Lucretia dewberry, Arizona Everbearing strawberries and strawberry guavas.

Vegetables.—In the garden we raise the following from seeds as per vegetable list for each month in the year, viz:

January—After the 20th, turnips, cabbage seed, carrots, lettuce, peas.

February—Radishes, beets, salsify, spinach, onion seed or sets.

March—Potatoes (in field), turnips, cabbage, lettuce, peas, cabbage plants.

April—Cucumbers, watermelons, muskmelons, squashes, tomato plants, radishes, beets, salsify, corn, beans, sweet potatoes, cabbage seed.

May—Carrots, lettuce, peas, onion seed or sets.

June—Radishes, beets, beans, corn, salsify, cabbage plants.

July—Carrots, lettuce, cabbage seed.

August—Potatoes (in field), corn, beans, radishes.

September—Cabbage plants, peas, turnips, salsify, and carrots.

October—Beets, beans, onion sets, lettuce.

November—Turnips, spinach, salsify.

December—Winter radishes, peas, lettuce.

We do not raise any celery, rhubarb, asparagus or parsnips for the reason that they get too stringy and are not fit to eat. They *can* be raised, but for the little good you get from them it does not pay to raise them in our soil and climate.

Lettuce does quite well from May to October if planted with another vegetable, such as beans, which will shade it from the rays of the hot sun and keep it from wilting.

Methods.—We plant our vegetable seed in rows, the same being eighteen inches apart.

We cultivate our family orchard every fifteen days and if very warm every ten days, and irrigate the citrus trees three times and the olive trees twice, in basins.

The small fruits and garden are irrigated every ten days, in trenches, and cultivated weekly, while in hot weather the garden is irrigated weekly and cultivated twice a week. If the rainy season is favorable, we do not need to irrigate for from five to seven months, so those who have not the water can raise vegetables as per list from November to May by thorough cultivation. If we have no rain for a few weeks, cultivating twice a week is better and pays. A person must adapt his practice to the weather and to the location where he lives, in the growing of vegetables. Our garden, which is fifty feet square, supplies enough vegetables for a large family, and requires less than half a day's attention during a week.

Desirability of Home Supplies.—If all those engaged in agriculture and horticulture would raise their own chickens, vegetables, small fruits and other kinds of fruits for family use on the ranch, they might enjoy many a rich treat and would save at least what it would cost otherwise to buy them. Ranchers, as a rule, have not the money to spare these hard times to buy the things mentioned, and if not raised they have to do without them. In this age of advancement and civilization, brains must be used as well as muscles to make a success in growing the things for the family, the same as in any other kind of business. Laziness, indifference, want of energy and progress, will not help the man to grow these things; the grower must do his part and nature will do the rest.

Patrons of Husbandry.

The State Grange.

The State Grange of California convened in its twenty-fourth annual session at Sacramento on Tuesday of last week and continued busily engaged in the consideration of matters connected with the administration of the Order and of the interests of the farming public through the four days of Tuesday, Wednesday, Thursday and Friday. The attendance of voting members was about equal to that at recent sessions of the State Grange, the following Granges being represented: Alhambra, American River, Antelope, Bennett Valley, Danville, Eden, Elk Grove, Florin, Glen Ellen, Grass Valley, Grimes, Highland, Lockeford, Lodi, Magnolia, Merced, New Hope, North Butte, Pescadero, Petaluma, Potter Valley, Roseville, San Antonio, Sacramento, San Jose, Santa Rosa, South Sutter, Selma, Stockton, Temescal, Tulare, Two Rock, Waterloo, Watsonville, West San Joaquin, Woodbridge and Yuba City. All the leading officers of the State Grange were in attendance, excepting ex-Committeeman Loucks, and all of the living Past Masters of the Grange, excepting Messrs. Coulter, Roache and Webster.

The first day of the session was devoted almost wholly to the reading of official reports, of which we shall have more to say later on. The general purport of these reports was that the Order is in a prosperous financial condition, that it has, during the past year, somewhat more than paid expenses from its official revenues and that it has a sufficient fund in the bank to meet any reasonable requisition upon its resources for the promotion of the good of the Order.

Tuesday was spent in an expedition to Folsom under the auspices of the Sacramento local committee of entertainment, and in the evening a session was held devoted chiefly to musical and other features of entertainment.

It was not until the third day—Thursday—that the Grange got down to serious business, but from then on the time was well filled with propositions and discussions relating either to the Order itself or to the interests for which it stands. The proposed amendments to the constitution were taken up and the one amending Article 9 to read: "Thirteen persons, having received the four subordinate degrees, of which there shall not be less than four of either sex, may receive a dispensation to organize a subordinate Grange," was adopted.

The resolution of Petaluma Grange, that the initiation fee be reduced to $1 for males and 50 cents for females, was adopted. A communication from Highland Grange was received in regard to the summer school at Camp Roache, asking the State Grange what its purposes were in the matter. This subject was later made the theme of a report by the Education Committee, which was adopted to this effect, namely: that the State Grange, while appreciating the advantages of the summer school and approving its course in every respect, was not in a position to do more than lend it its moral support. The effect of this action, it is believed, will be the withdrawal of the Camp Roache summer school from the jurisdiction of the State Grange and its adoption either as a local institution by the people of the vicinity, or, possibly, by the State University as a feature of its University extension work.

Among the propositions presented to the State Grange from subordinate Granges was one from Two Rock recommending that an appeal be made to the General Government to engage in the manufacture of miscellaneous farming implements and to sell the same to actual farmers practically at cost. The Committee on Agriculture, after due consideration, disapproved of this suggestion to the State Grange by unanimous vote and ratified the adverse judgment. Resolutions approving the project for a free wholesale produce market on the San Francisco city front were adopted by unanimous vote, and the Master and Secretary of the State Grange were authorized to lend the influence of the Order to this project at their own discretion.

A resolution was introduced reciting that there is general dissatisfaction as to the manner in which the commission and brokerage business is now conducted, and recommended that laws be passed requiring all brokers and commission merchants to give bonds for the honest and proper returns of the business entrusted to them by their customers. This proposition did not find favor with the committee and was voted down by the Grange. A resolution was passed memorializing the Legislature to enact laws for the protection of doves, it being alleged that they were very useful in preventing the ravages of certain insects and were in no sense harmful, and that under the present laws they were subject to destruction at the hands of hunters and others.

The evening of Thursday was devoted wholly to a memorial service in memory of the dead of the Order, including Worthy Lecturer Ohleyer, Mr. and Mrs. McGlincy, Mrs. I. C. Steele, I. de Turk, Amos Adams, John Adams and others. Past Master Johnson presided at this meeting. Memorial papers were read, followed by extemporaneous eulogies in which many took part. These services were accompanied by appropriate music, and the occasion was one of the most impressive in the whole period of the meeting.

The busiest day of the session was, as usual, closing day. The report from the Committee on Good of the Order was read in the morning session. The following is the form in which it finally passed:

"The good of the Order implies a great deal which is not expressed. It implies that its members believe it to be a good Order, and worthy the support and membership of good men and women everywhere.

"Ours being peculiarly a farmers' Order, it follows that every member believes that every good farmer should belong to it.

"Holding to such belief, the duty or responsibility is laid on every member to do all in his power to influence other farmers to unite with us and make the Order strong in numbers, intelligent in purpose and powerful in action. Not until each member of every subordinate Grange in every State of the Union realizes that he is a factor in a great moving, aggressive army—a spoke in the great wheel that turns the machinery of Government, can we increase the possibilities of our organization.

"Wise leadership is very important, but loyal, willing followers are equally so. We believe our energies should be directed to securing a larger membership; we believe that hard work, earnestly and systematically applied, is the only method by which our Order can draw to itself and get aid and support of all good farmers, and we recommend that as early a day as is practicable they take a list of all good farmers who do not now belong to the Order within the jurisdiction of their Grange, not overlooking the names of any young men or women, and appoint a committee to solicit them to join with us.

"The future of the Grange depends upon getting the young people into the Order, and we think it the duty of patrons to urge their children to join the Order upon arriving at a suitable age.

"We would recommend as a means of increasing the interest of a Grange meeting a thorough knowledge and perfect rendering of the unwritten and ritual work, and that all degree work should be done in the most impressive manner.

"We know of nothing that will add more to the attractions of the Grange than good music, and every Grange should make it a matter of first importance to secure a good Grange choir to lead in the singing. We think every Grange should faithfully observe meetings especially dedicated to Flora, Ceres and Pomona, and on these occasions the most pleasing programmes should be provided and so conducted as to call out every member of the Grange. Also the anniversary of the Order should be observed with appropriate meetings.

"The good of the Order would be greatly advanced if every Grange could own its own hall. No good patron will for a moment consider time and money spent in the erection of a Grange hall wasted. We know that all Granges are not so situated as to build a hall.

"We see no good reason why every Grange county in the State should not have some space in the local papers devoted solely to Grange matters, in order to inform the people of our work and achievements. The prosperity we seek cannot be brought about by sitting with folded hands waiting for the 'Year of Jubilee' to come, but can only be accomplished by work, and earnest, devoted work and personal sacrifice on the part of the officers and deputies of the State Grange, assisted by a like devotion on the part of the officers of the subordinate Grange, all striving for the upbuilding of our glorious fraternity.

"One of the most distinguished and ennobling characteristics is that it accords to woman her true position. We have one more duty to perform on the 3rd of November next, which will grant to women their inalienable right at the ballot box. The Grange has done a great deal in its silent way to secure woman her just rights. Now we have the opportunity to proclaim to the world our appreciation of women.

"We recommend that the officers and members of this body contribute at least one article to the current literature of the Grange during the year.

"Farmers' Institutes should be promoted and encouraged much more in the future than they have been in the past, provided it be done by the present faculty without additional cost to the university. And, second, that this State Grange amend the by-laws so as to admit representation from pioneer Granges by the Pomona Granges paying a quarterly fee of 2 cents on each member. Third, we should oppose high salaries, high rates of interest and exorbitant profits in trade; to encourage cheap transportation; to protect the weak and restrain the strong; to oppose tyranny in public office or private enterprise; to put down bribery, corruption and trickery; to secure the nomination and election of men who will stand by the industries of the country.

"The Master's report in reference to the inspection service we have considered, and we recommend that the matter of inspection service be referred to the Master and Executive Committee, and that they be authorized to make provision to pay the expenses of deputies.

"That portion of the report of the Executive Committee in reference to the change of time of holding the sessions of the State Grange we have carefully considered, and after listening to arguments on the question we concur in the recommendation of the Executive Committee."

The report of the committee was, on motion of Johnston, taken up seriatim and the first, second, third and fourth recommendations adopted.

The fifth was referred to the Committee on Constitution and By-Laws, while the sixth, seventh, eighth and ninth were adopted.

Wm. Johnston moved that the tenth recommendation be not concurred in, but the noon hour having arrived a recess was taken without action.

The vacancy in the Executive Committee, caused by the expiration of the term of George P. Loucks, was filled by the unanimous re-election of Mr. Loucks, this being his third tenure of official life. There were no other nominations. In connection with this election, many leading members took occasion to express approval of Mr. Louck's efforts in connection with the executive work of the Order. It was the general opinion that he well deserved his cognomen of "Watch-dog of the Treasury."

In the matter of the vacant Lectureship there was a general wish to elect George Ohleyer Jr., son of the late Lecturer. Mr. Ohleyer, however, did not feel justified in accepting the place and objected to a proposition to give him the election by acclamation. In declining, he proposed the name of Past Master E. W. Davis, which was greeted with general applause. Mr. Davis was elected. He was not present at the time, but it is believed that, although very much burdened with the weight of official and private business, he will find time to serve the Order in the capacity of Lecturer.

At this stage of the proceedings, the proposition previously made to change the time of meeting of the State Grange from October to February or April came up for discussion, and there was a very general and spirited interchange of opinion. The change was warmly advocated by Worthy Master Greer, who left the chair to make an earnest and forcible speech in its behalf; but, upon a vote being taken, the proposition was lost.

The Lubin proposition for an export bounty was again approved.

It was voted that the Grange cordially approves the action of the Regents of the University in appropriating funds for a series of farmers' institutes and the Lecturer of the State Grange and each subordinate Grange was instructed to assist in every possible way the promotion of this work.

It was moved by Thomas McConnell of Elk Grove that the RURAL PRESS be made the official organ of the Grange, and the proposition was supported by Past Master Johnson, Past Lecturer Huffman and others. Messrs. Sanders and Whittaker thought that the Order had no need of a special organ. After some further talk, the matter came to a vote and Mr. McConnell's motion carried. The RURAL PRESS will therefore be the official organ of the Grange during the coming year.

The social and esoteric features of the occasion were especially complete and delightful. The exemplification of the secret work was particularly efficient and interesting. The people of Sacramento were cordial in the highest degree. The attendance of members of the Order was at all times large, Sacramento being a center easily reached from many directions. Sessions were held in the Senate Chamber and were made especially impressive by the vastness and beauty of the room. The Pomona feast was held in the Assemblage Chamber after the Pomona degree had been conferred earlier in the evening at Grangers' Hall. The Chamber presented a beautiful appearance being generously ornamented with fruits and flowers. Eight hundred invitations had been issued. At a given signal the doors were opened and the officers of the Grange, bearing the insigna of the respective offices, marched at the head of a procession several times around the room, and then took their places at the Speaker's desk. It was universally admired as a characteristic and picturesque scene and one which could not be produced anywhere excepting in California, the land of fruits and flowers.

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THE HOME CIRCLE.

In the Clover.

In the pasture's clover deep
There I love to lie and sleep;
Over me the placid sky—
Blue save where his golden eye
Out of heaven's window looks
In the mirrors of the brooks
That Apollo may behold
How like me, too, he grows old.
All about me billows blown,
Emerald as ocean's own,
By the drowsy gales that blow
Catching fragrance as they go.

Crusoe of that clover isle
There I come to dream awhile,
Far from worry, strife or din,
Shut my island home within.
Deep drawn breaths of winy air
Are the nectar I drink there.
Hebe ne'er her drafts served up
Brimming such a sapphire cup!
Thessaly ne'er grew a vine
Yielding such a sparkling wine,
Drinking which, 'tis mine to feel
Blissful languor o'er me steal.

Give me then that clover bed,
With its blue roof overhead.
There to lie and dream away
All the tedious hours of day.
Pan shall cheer me with his reed,
Fawns shall dance across the mead,
Daphnis tend his snowy herds
And Theocritus make words
Mingle in soft melody
In my slumber—Sicily
Set the clover sea amid,
As of old in Greece he did.

—New York Independent.

The Colonel's Plan.

I.

It was Rosebud's wedding.

The little white bride was running down the path with her hand clasped in her husband's. After them raced the six tall bridesmaids, with their faces buried in their bouquets, and over them all stormed a cloud of rice.

The colonel gave his arm to the bridegroom's mother, and the two proceeded down the churchyard path. Some misdirected showers assailed them also, and Mrs. Kennedy laughed shrilly as she shook the rice grains off her bonnet.

"Quiet superfluous," she remarked, as they found refuge in a carriage and were driven up to the house. The dressmaker's apprentice had been in possession during the ceremony, that all the servants might go to see Miss Rose married. She had stipulated only to have a policeman on the lawn, because of the wedding presents, and had propped all the doors and windows wide, that he might hear shrieks if anything should happen or if her terror of the colonel's wolves' heads and tigers should get beyond control.

The first carriageful drove up to the empty house and Rosebud and her bridegroom stood side by side, looking down the long room, smiling.

The bridegroom's mother was a woman with a presence; she sailed up in a rustle of heavy silk and Rosebud put up her face nervously to be kissed. She was a little bit afraid of her mother-in-law.

* * * * * * *

The crowd rushed in and the champagne glasses began their perilous circulation, jingling and tottering. The colonel had ordered a special brand of a dryness beyond disputing, and it acted like a tonic upon the lady guests, who sipped at it soberly.

Rosebud's billowy satin trail was getting entangled among other people's feet. When she moved, the end of it whisked round suddenly, and caused a great commotion. She looked charming, flushed with the glory of the minute; but there was girlish longing in her eyes when she glanced at the great white cake.

"I want a big piece to dream on," she whispered, squeezing the colonel's arm.

"Oh!" said Archie, reproachfully, and then she remembered that she was married.

Then she disappeared, a little white, radiant vision, to run down the steps with Archie a little later, and dash through a shower of rice into the carriage that was to take them away together. The white rain pattered on the carriage roof, and Rosebud, putting her head out, smiled and nodded.

"A capital plan," said the colonel. He was addressing the aunts and cousins who had come down for Rosebud's wedding, and who were now scattered about the empty rooms. The carriage drive was white with rice and some fowls had thrust themselves in below the hedge, and were very happy. Inside there were crumbs of hard, white icing upon the carpet and the place looked bare. The afternoon was drawing to a close, and there was to be some kind of dinner some time; no one knew when or what. The aunts and cousins smoothed out their finery and stretched their smiles; they were inclined to feel melancholy. But the colonel was very cheery.

"A capital plan," said he. "Old Mrs. Kennedy will have the place ready for them. She is going to live with them, you know, and give them hints, which will be jolly for Rose."

"Humph," said the aunts and cousins. The six bridesmaids turned away from the window. A great deal of rice had slipped down their necks, and their views of life were not quite so rosy.

"Poor thing!" they exclaimed together.

* * * * * * *

The colonel was going to see his daughter. As the honeymoon was over the birds must be settled in their nest, and he was eager to see his little Rose in the glow and dignity of her new position. Driving into the town, he put up at a hotel, and marched down the street light-heartedly. Archie Kennedy managed the County bank, and though his "house" was over a shop, as often happened in Scottish towns, the county came in for afternoon tea, and waited up there for their carriages after concerts, besides showing themselves generally kind; for Archie was well connected.

"Mrs. Kennedy?" said the colonel, stopping to chuckle upon the mat. It seemed such a funny way of inquiring for Rose.

He was taken up stairs solemnly, and put into the drawing room, Rosebud's drawing room. With another chuckle, he put up his glass and looked about him. How Rose used to scold at the shabby old drawing room at home, a room that not all her fripperies could brighten!

"When I have a room of my own," she would say, "it will be all pink and pretty. Pink paper and cushions, and little crooked chairs, and Dresden china. Wait!"

This was, however, not the kind of room that the colonel had been led to look for. It was long and dark, with heavy curtains, shutting out the windows and the sun. The wall paper was of a dark blue pattern, and the mantelpiece was covered with peacocks' feathers. Peacocks' feathers, of which Rose had such dread and horror that she had burned all there were at home!

The colonel walked up and down, lost in astonished contemplation. In his abstraction he knocked over a basket that had a table to itself, and stooped to pick up the contents, reels, scissors, socks and wool, and a big bunch of keys. These keys looked business-like; they clattered much as the colonel put them back; but he noticed that the basket was old and the lining shabby; it could not belong to Rose. He straightened himself and wondered.

"Papa!"

She came flying up in her old hasty fashion. The door, with its heavy curtains dragging, swung slowly shut behind her.

"How are you getting on?" said the colonel, drawing her to the light and smiling. Like two little birds in a nest?"

"You have forgotten my mother-in-law," said Rose. Then she buried her face in his coat and cried.

"What? Hey? What?" ejaculated the colonel helplessly. He had not expected this. Rose lifted her head and smiled, though her mouth still quivered.

"It's all right," she said. "Only I—I—was rather lonely, and you did not tell me you were coming—and—and—I am so happy."

She was trying to laugh, but the sound did not ring gayly. The colonel stared at her, patting her head and striving to make it out.

"Come into the other room," said Rose. "It is so dull and dark in here, and those peacocks' feathers send cold shivers down my back. Come into the other room. She is out."

"She?"

"Oh, Mrs. Kennedy," exclaimed Rose, hastily. She took him across the landing into the dining room, the windows of which looked on the street. There was a low chair in one window, a work table and a cat.

"I sit here with pussy," said Rose. "Then I can watch people go by in the street. And the bank is just opposite. If I look very hard—so," she pressed her small face close to the glass, "I can now and then see the top of Archie's head over the wire blind in the window."

"Is that the way you keep house, lazy person?" said the colonel, patting the hand that lay in his own. "I thought I would find my Rosebud buzzing up and down like a little bee, trotting to the shops and making wonderful experiments in the kitchen. I was certain you would appear in a big white apron, clattering your keys."

"I would like that," said Rose. Her tone was woeful. "But Mrs. Kennedy manages. There—there is nothing for me to do."

She sighed, and then jumping up, began to talk fast and nervously. There was a step on the stair, and along the landing. Somebody looked in.

"My dear Rose, I do think——"

The voice was unpleasant. It was, however, altered as soon as the colonel was observed. Mrs. Kennedy came in smiling and shook hands.

The colonel would stay to lunch, of course? and to dinner? She must just go down and speak to the cook.

"You ought to do that, Rosebud," said the colonel, pulling at his moustache. "I shall speak to Archie." But Rose gave a little nervous laugh.

"Don't papa; oh, don't! It would make such mischief; and she would hate me—and I am awfully frightened of the cook."

* * * * * * *

"Poor little creature. I am so sorry for her."

"I know old Mrs. Kennedy makes her life a burden."

"Should not somebody speak to Archie Kennedy?"

"It wouldn't do any good. It isn't as if the old wretch had any money. She has got to live with them, and I suppose that is why Mrs. Archie puts up with her so sweetly. It can't be helped."

"Poor Mrs. Archie! The old lady's constant nagging must be enough to drive her mad. Did you see how ill she looked?"

The colonel heard bits of that conversation, for he was sitting behind the talkers' parasols It sank into his mind along with his own conviction and Rose's anxious little face.

"Promise that you won't be putting things into Archie's head," she had once said, when the colonel had come in and found her crumpled in a little heap on the sofa, sobbing.

"I was feeling a little low, that's all—and I would never forgive you. Promise, promise," and she would not let him go until he gave in.

Rose was a plucky little soul, as she should be, being a soldier's daughter. She would not complain or tell tales and if she did not show fight it was for Archie's sake. But the colonel grew to recognize a little patient droop of her mouth—a droop that she curved up into a smile if Archie came in. This was the Rosebud whose life should have been all summer, who ought to have been the happiest little wife in the countryside.

The colonel pulled at his gray moustache and his eyes were troubled. People talked of it, did they? What did they say?

"If only the horrid thing would go and get married and leave those two in peace."

"Married? Old Mrs. Kennedy?"

"My dear, she would be only too delighted. You can see in it the twinkle of her eye. And it would be a mercy." * * * "Hum!" and the colonel was thinking hard. There was one way out of it. The lines grew deeper across his brow. Those parasols were fluttering with many other parasols and the talk was of other matters. The colonel was driving home and thinking. Light words lightly spoken are not always lightly heard.

The sun went down. A faint mist rose over the soft place in the moors and the daisies were all asleep. As to the horse, he was going as he liked and he stopped at the stable gate. The colonel walked up to the house he had lived in for many years. The flowers the gardner sowed grew in the borders stiffly; but a rose tree that had been planted long ago had grown all over the wide front wall, unclipped, untidied—it had been planted by Rosebud's mother.

There was a dog in the lobby. It was an old campaigner like its master, in its own line, and had probably had a great deal to do with the getting of the many trophies that hung on the walls. "Grinning dead things," as Rose had called them; but she had been early familiar with them, and did not scream at wolves' heads and tigers' jaws.

The look of the house was shabby. The rugs were worn, and the papers faded. It had the air of a man's house, very comfortable to man, but a blot in the eyes of a woman.

"Hum," said the colonel, stopping at the stair-foot and looking round. The dog sniffed at his heels and followed.

There was one room upstairs that was unlike all others. The colonel turned the door handle softly, as if he were on the threshold of some holy place; as if the faint, faded scent of roses was not to be lightly breathed. There was a strange silence in there—a silence that did not seem like the mere quiet of an empty room.

"Marguerite," said the colonel.

He was speaking to somebody who could give no answer, but his voice was anxious.

"Marguerite, you will not be angry? It is for our little one, our only girl. For her sake alone, my dearest."

Then he turned and came out again. His face was darkened with resolution, and a decision that had been hard.

Mrs. Kennedy and her daughter-in-law sat at the window. Rosebud was gazing across to the bank, with her hands clasped idle in her lap. The droop in her mouth was very plain. Mrs. Kennedy, for her part, was glancing up and down the street, observing her acquaintance, the shops they went into, and the clothes they had on. Her sharp eyes traveled up and down, and her tongue was busy.

"There is that Lorrimer girl. Shocking style! Do you see her hat? I wonder how you can make a friend of such a person. I really wonder, Rose * * * Oh, she is speaking to Dr. Smith. He has plenty of time to talk in the street, you see. I cannot understand your preferring him. I have always had Dr. Nivison"——

"Yes," wearily, from Rose.

"Ah, now, do you notice how badly Miss Hallam walks? And you admire her? I can't agree with your taste, Look how awkwardly she crosses the street—she is standing on one leg outside Bailey's!—There are the Merrimans, your friends. Positively——Oh, who is that odd person with a bouquet? Good gracious, can it be your papa?"

Rose looked up the street. Yes it was the colonel, marching stoutly along, with a great bunch of flowers.

"How funny! But my dear, pray don't rush down stairs like that. The servants"——

She only spoke to the tail of Rose's gown, for the girl was flying down to pull back the latch herself.

"Oh, the flowers! How dear and sweet of you," she cried. The colonel laughed in an embarrassed manner, but kept hold of his bouquet until they had come upstairs.

"They are for Mrs. Kennedy, if she

cares to accept them," he said solemnly.

Rosebud gasped.

"You are quite gallant, colonel," said the mother-in-law, sniffing at the bouquet. There was a sudden sprightliness in her tone, and her look was arch. Rose thought she had grown younger.

"Was it a joke, papa?" she said, half reproachfully, while Mrs. Kennedy retired to put the bouquet in water. But the colonel shook his grizzled head.

"A joke? My dear child, why should you think so?" he answered stoutly.

* * * * * * *

It was not long after this that Rosebud, venturing into her mother-in-law's room to ask her something, found her at her toilet table. She was sitting in front of the glass and smiling; there was a powder-puff in her hand and one cheek was a brilliant pink.

To be Continued.

Gems of Thought.

Instead of praying for effects, let us pray that we may be enabled to fulfill causes.—Prof. Drummond.

Only he who puts on the garment of humility finds how worthily it clothes his life.—Phillips Brooks.

The best cure for sorrow is to sympathize with another in his sorrow. The cure for despondency is to lift the burden from some other heart.

The star of hope for the temperance cause hangs over the schoolhouse. If we save the children to-day we shall have saved the nation to-morrow.—Mrs. Mary H. Hunt.

There is no action of man in this life which is not the beginning of so long a chain of consequences as that no human providence is high enough to give us a prospect to the end.—Thomas of Malmesbury.

We are never without help. We have no right to say of any good work, "It is too hard for me to do," or of any sorrow, "It is too hard for me to bear," or of any sinful habit, "It is too hard for me to overcome."—Elizabeth Charles.

There will be a harvest from every sowing. Not one grain of the holy seed of love can ever be lost. The life may sink away, and seem to have perished; but from its grave will come an influence which will be a blessing in the world.—J. R. Miller.

The love we have to God is realized in our love to men. It cannot abide alone. Those who have thought to gain it by retirement and meditation have found it only a will-o'-the-wisp, save as it has issued in the love that seeks men and tries to do them good.—Herman Packard de Forest.

There is no such thing as patriotic art and patriotic science. Both art and science belong, like all things great and good, to the whole world, and can be furthered only by a free and general interchange of ideas among contemporaries, with continual reference to the heritage of the past as it is known to us.—Goethe.

Exert your talents and distinguish yourself, and don't think of retiring from the world until the world will be sorry that you retire. I hate a fellow whom pride or cowardice or laziness drives into a corner, and who does nothing while he is there but sit and growl. Let him come out, as I do, and bark.—Dr. Johnson.

Popular Science.

A large proportion of the marine creatures found at a great depth in the colder parts of the ocean are of a red color.

An error of a thousandth part of a second in an astronomical calculation would mean a difference of two hundred billion miles in the distance of a star.

The sensation of temperature experienced by the human body and ordinarily attributed to the condition of the atmosphere depends not merely on the temperature of the air, but also on its dryness, on the velocity of the wind and on the suddenness of atmospheric changes, all combined with the physiological condition of the observer. A complete expression for the relation between atmospheric conditions and nervous sensations has not yet been obtained.

Imagine living in a planet where the grass and foliage are red instead of green! Doesn't even the thought of it make your eyes ache? But that is what a French astronomer holds is the case in Mars, and is the cause of its ruddy color.

If, says an exchange, the people on the star Sirius have telescopes powerful enough to distinguish objects on this planet, and are looking at it now, they are witnessing the destruction of Jerusalem, which took place over 1800 years ago. Of course, the reason of this is that the light which the world reflects, traveling, as it does, at the rate of 186,000 miles a second, would take eighteen centuries to reach the nearest fixed star. Such is the immensity of space.

In the Polar regions Dr. Moss found that at a temperature of 35° C. a candle would not burn regularly; for the wax would not melt, being cooled at once by the surrounding air. The flame then burned feebly, and sank down into a kind of tubular hollow; and on boring holes into this the flame sank down so as to leave a tubular shell, which was actually not melted by the flame. The continuous current of very cold air induced by the flame was not heated sufficiently to enable it to melt the wax above the flame.

Curious Facts.

The entire population of the State of New York (6,513,344) could find standing room on a tract of only one square mile in extent.

A Chinese doctor is employed by the year to attend a family and keep its members in good health. When one falls ill, the doctor's pay is stopped until the patient recovers.

Over 95 per cent of the vessels which passed through the Suez canal last year used the electric light, so as to be able to continue the trip through the great waterway during the night.

There are no sheep in Japan, and wool is not used as clothing, silk and cotton being the staples. There are no pigs—pork is an unknown article of diet, and lard is not used in cooking. Neither are there any goats, nor mules, nor donkeys.

Sweden has the oldest and largest match factory in the world. Matches were made there long before the old, roughly trimmed splinter of wood tipped with sulphur was discarded with the tinder boxes for which they were used. In twenty-five years the export trade of Sweden in modern matches increased to 1,000,000 boxes a year. Some of the machines for making the matches which we use in these days make 200 revolutions a minute each, and turn out about 2,500,000 boxes annually. Altogether, there are in Europe about fifty thousand factories, and they yearly produce matches valued at $50,000,000.

Birds as Seed Carriers.

Two centuries ago the Dutch destroyed every nutmeg tree in the Moluccas in order to enjoy a monopoly of the business, having planted the trees in their own possessions. In spite of their most earnest efforts, however, the islands were being constantly restocked. For a long time the thing was a mystery, but at length it was solved. The doves of that quarter of the world are of large size, and readily swallow the seed of the nutmeg, of the fruit of which they are very fond. Of wandering habits, and having great wing power, they traverse wide stretches of sea and land in a few hours, and deposit the seeds of the nutmeg not only uninjured, but better fitted for germination by the heat and moisture of the bird's system. By a similar process thousands of acres of land have been covered with trees of different kinds, the birds acting as nature's agents in the dissemination of plants. But in quite another manner do they transport seeds from place to place.

Darwin found in six grains of earth adhering to the feet of a plover three different kinds of seeds, and in the mud sticking to the feet of ducks and geese shot in England he found the seeds of plants peculiar to the Victoria Nyanza, in central Africa, thus proving not only the extent of migration, but also the possibility of plants appearing in strange localities through the agency of these birds. In the mud sticking to the feet of a Texas steer the seeds of five different kinds of weeds and grasses common in Texas were found by a microscopist after the arrival of the animal in New York.—St. Louis Globe-Democrat.

DOMESTIC ECONOMY.

Domestic Hints.

POTATOES WARMED IN GRAVY.—Chop a pint of cold boiled potatoes into half-inch dices. Put a cupful of good gravy (beef, veal or poultry) into a spider, and when hot put in the potatoes, stirring until they are thoroughly mixed with the gravy, and serve hot.

BREADSTICKS.—Breadsticks offered with soup are made from the ordinary bread dough. After the bread is quite light, and just as it is ready to mould, cut off small portions, roll them out under your hand to about the thickness of a lead pencil and eight or ten inches in length. Put them in greased pans and stand in a warm place. Bake, when light, for twenty minutes. They should not be sweetened. At the large house-furnishing shops pans to bake them in can be bought.

RHUBARB JELLY.—Rhubarb jelly is not common, perhaps, but still is often made. It is best made from old rhubarb, and late August and early September is not too late for it. Cut into finger lengths seven pounds of good, juicy rhubarb and put into the preserving kettle with one cup of cold water. Allow it to simmer gently until all juice is extracted; then give it a rapid boil and strain through a jelly bag. To each pint of juice add three-quarters of a pound of white sugar, and to the whole quantity a teaspoonful of powdered alum, and any flavoring liked. When the sugar melts, boil quickly for eight minutes; then try it. It should not be syrupy. It thickens a good deal after it is put in jars.

APPLES AND RICE.—To prepare apples and rice prepare and cook six tart apples exactly as for apple meringue. Be careful to use a broad, shallow kettle, so that the apples are not piled over one another, but can easily be turned while cooking. Measure out a level half cup of raw rice, wash it and cook for twenty minutes in a double boiler with three cups of milk, seasoned with half a teaspoonful of salt. Pile the apples on a plate and cover them with the rice. Serve them after they have been five minutes in the oven. Decorate the rice with spoonfuls of red currrant jelly and serve with a soft custard sauce made by the yolks of two eggs, two tablespoonfuls of sugar, a flavoring of orange extract or vanilla, and finally two cups of boiling milk added by degrees. Stir the whole over the fire for three minutes and pour it over the apples and rice when served. Another way is to cook the rice as described, and when it is lukewarm, add the yolks of two eggs and beat thoroughly. Then add the whites of two eggs beaten to a stiff froth. Fold the whites in carefully, so as not to break them, and add three tablespoonfuls of powdered sugar. Fill a two-quart mould about three-quarters full, using first a layer of prepared rice, then a layer of apples, cut very thin; or canned apricots, peaches or pineapple, cut in thin slices, may be used. Set the mould, well covered, in water, and let the rice and fruit steam for twenty minutes. Serve the pudding with a cream sauce. Put a pint of milk over the fire to boil. Meantime beat up two eggs with three tablespoonfuls of flour and a teaspoonful of cornstarch, mixed with a little cold milk. Add a little of the boiling milk to this mixture and finally stir it carefully. Let the sauce boil, stirring it all the time. Add as seasoning two tablespoonfuls of brandy or maraschino. Can-dried cherries, limes and white and red pears, cut in pieces, make a very pretty decoration for such a turban of rice. The ordinary brown-bread mould, holding two quarts, is a good mould for rice, though the regular turban mould is more often used.

Hints to Housekeepers.

Rubber tubes, complicated nipples and nursing bottles are dangerous, and should never be used.

Anything with a meringue over it should be put in a cool oven and allowed to brown slowly, if you wish to have it light. A strong heat toughens meringues.

If a bunch of grape leaves are put in the brine in which cucumbers are to be soaked for pickling, it will help keep the cucumbers sound and firm and of a good color.

In blanching nut meats, pour over them boiling water and let it stand a few moments. Throw over them cold water and rub them between the fingers, and the skins will readily come off.

When the whites of eggs are used, and the yolks are not required at the same time, drop the yolks into a small cup or glass, cover the surface with a little cold water and keep in a cool place.

If corned beef, tongue or ham is left to cool in the water in which it is boiled, the meat will be much better and more moist. All boiled meats should be cooked slowly, and never allowed to boil rapidly.

If whipped cream is wanted quickly, and there is no whip churn available, have the cream very cold, and put it in a glass fruit jar with an air-tight cover. Half fill the jar with the cream, fasten the cover tightly and shake the jar vigorously.

Use the graceful wild grasses as well as the cultivated ones for table decorations as long as they can be had. These grasses come in great variety, and are beautiful and decorative. Foliage also may be used to great advantage at this season, and flowers are to be had all the year.

Flat irons that have become rough from rust or starch should be rubbed with yellow beeswax. Have a cake of the wax tied in a piece of coarse cheese cloth. Heat the iron until it is very warm, but not hot; rub the iron briskly with the beeswax, and then quickly rub with a clean, coarse cloth until the surface is smooth.

Iced tea is refreshing, certainly, but it is not considered entirely wholesome for the regular use of any one, notably children. A way to make it to insure a minimum of tannic acid is partly to fill a goblet with cracked ice; make the tea somewhat stronger than usual; then pour it, boiling hot, over the ice. A slice of lemon and a little sugar may be added.

A hole in a granite saucepan or kettle may be mended by using a copper rivet. These rivets, which come in several sizes, may usually be bought from a harness maker. The rivet is put in the hole, and over the end of it is put a copper washer is a part of it. Flatten the end of the rivet with a tack hammer, and the kettle is good for service for many days. When the enamel is chipped from a small spot in the bottom of the saucepan, the weak spot may be reinforced in the same way.

When Hubbard squashes are watery they are best cooked by steaming or baking. If they are to be baked, cut in large pieces and put in a pan with the rind side up. If you have a very hot oven, cover the pan. When tender, mash fine and season with plenty of butter, salt and pepper. Some very good cooks use a teaspoonful of sugar for every half squash and press the pulp through a colander. Cut away all the stringy part of the vegetable before cooking.

Attractive Cape and Jacket.

AN AUTUMN WRAP.

998—Berkshire Cape.

Sizes, Medium and Large.

The ever-popular cape never loses its attractiveness as long as designers succeed in imparting such a stylish air and make them so becoming. Our pattern—the "Berkshire"—is designed for traveling and street wear, and, as illustrated, is made of tan-colored box cloth and trimmed with straps of the same, finished with rows of stitching and ornamented with pearl buttons. It is lined throughout with Dresden taffeta and the high collar can be faced with the cloth or with velvet. The pattern can be used also for dressier wraps of silk, satin or velvet, trimmed with overlapping frills of gauze or lace, and surround the shoulders with a mass of billowy fluffiness.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

GIRL'S AUTUMN SUIT.

1007—Alda Jacket.

Sizes for 10, 12 and 14 Years.

This is one of the convenient blazer-like jackets which children and young girls take such thorough comfort in. It has the new sacque back, and the fronts fit easily, so they can be buttoned for greater warmth or left open. A neat tailor collar and revers finish the neck and fronts. Plain clothes in warm drab, chestnut brown and dark blue are the usual choice for these wraps, but occasionally dark red ones are chosen, especially for very little ones. Any style of fancy or blouse waist may be worn with the jacket. The skirt is the Doris, described below.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

893—Doris Skirt.

Sizes for 12, 14 and 16 Years.

An extremely graceful design, having six gored breadths, flaring widely at the foot and fitting easily around the waist, except in the back, where the fullness is gathered. It may be lined throughout, but should have no interlining or facing. Any of the popular silk, woolen or cotton fabrics may be chosen for this model, and it may be worn with any style of coat, basque or waist.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

Fashion Notes.

Skirts of one material and bodices of another will continue in fashion all winter, probably chiefly because of their great convenience. Added to this, however, they are an extremely attractive combination.

After all, it isn't so much the gown as the accessories that go to make up a stylish *tout ensemble*. A plain silk shirt waist may be converted into a dressy bodice by covering collar, cuffs and box plait with open-work gold embroidery, and wearing a fancy gilt girdle at the waist. Or a perfectly plain gown may be made dressy enough for any of the afternoon affairs in vogue by throwing over the shoulders one of the huge lace scarfs, in cream or gray tint, usually with a center of dotted net, and full, deep border of some rich pattern. These scarfs are brought softly across the bust in fichu effect and tied in a big, loose knot on the breast. The dress may be turned in at the throat to give a tiny glimpse of the white flesh, and the lace scarf brought to the edge as a finish. A frill of lace finishes the wrist.

In the matter of sleeves, almost all of the new ones are tight to the shoulder, and there set off by some sort of oddment, according to the taste of the modiste. The mousquetaire sleeve is always snug, and wrinkled all its length, usually set off at the shoulder by a small puff, filled with curled hair, being lighter than cotton.

Another pretty form of sleeve has a plain, tight sleeve as a foundation, with over the shoulders a full width of the material, gathered into the armhole, and formed into wings at the top.

Sometimes the shoulder decoration of the sleeve consists of a succession of graded frills, edged with narrower frills of some thin stuff, or with lace and quilled ribbons.

A unique design for a curly-headed miss has a straight crown of lace, standing like a halo above the head, with a bow standing erect on each side, connected by a narrow band. The lace is that becoming shade of ecru and the ribbon is corn-colored, scattered with small red roses.

It is an accepted fact that all sleeves, no matter what their form, are trimmed at the hands. It may be more than a frill of lace, though it is often in the form of a wide, fancy cuff.

A becoming shade of red for a blonde with dark red hair is of a coppery cast yet very deep in tone.

Suffered From Childhood.

THE WAND OF MISERY WAS WAVED OVER THE HEAD OF MRS. ROSE PARGETER AT AN EARLY AGE.

From the Statesman, Salem, Oregon.

No victory in life bears so potent and so grateful a sense as the achievement over disease, the complete restoration to normal, physical and nerve conditions.

A case in point developed in Salem, Oregon, lately, and the particulars of the story as reported to the *Statesman* were of a character to warrant an investigation as a matter of news.

The beneficiary in this matter proved to be Mrs. Rose Pargeter, the wife of the proprietor of big Boise dairy plant, and a lady of marked intelligence, one who would be conscientiously reluctant to make anything approaching an exaggerated statement.

Mrs. Pargeter said to the reporter that her childhood, girlhood and early womanhood had been made unhappy by her susceptibility to nervous disorders, which found expression in almost constant sick headaches, neuralgia and kindred evils that all but wrecked an otherwise happy and useful life.

Her parents, well-to-do, and inspired by affectionate anxiety for their daughter's future, employed the best of physicians, but invariably without success. Almost every known medicine that seemed applicable to their daughter's case was tried in ceaseless succession, but the trouble seemed irradicable and irrepressible, and even after her marriage to Mr. Pargeter the same indomitable search for relief was kept up and still the afflictions would not abate, until at last Mrs. Pargeter's health was deemed irretrievably lost, and the future held but little charm for the young people.

Mrs. Pargeter finally became so exhausted by repeated and enervating attacks of nervousness, by the deadly intermittance of sick headaches and the frequent agonies of neuralgia that it was almost impossible for her to get about at all.

The story of how she came to take Pink Pills is a long one and need not be told here. Suffice to say she did begin them and with the following result:

The first box did not bring the coveted relief, but Mrs. Pargeter is a just woman and a thorough one. She did not disparage the remedy because of the failure at this point. The second box was taken with careful adherence to printed instructions, and lo! the dawn of her deliverance burst upon her. She proceeded with the treatment until the ninth box had been disposed of, and to-day Mrs. Rose Pargeter is the active manager of one of the largest dairies in this county and the head of one of the happiest homes in the world, and proud of the victory accomplished with this splendid remedy. She will not suffer the possible interposition of any other remedy than the Pink Pills, ascribing the triumph to them alone, and her gratitude for their extraordinary success is only equaled by that success itself.

(Signed) MRS. ROSE PARGETER.

STATE OF OREGON, COUNTY OF MARION, } ss.

Sworn and subscribed to before me this 11th day of August, 1896. JOHN M. PAYNE, *Notary Public for Oregon.*

Dr. Williams' Pink Pills contain, in a condensed form, all the elements necessary to give new life and richness to the blood and restore shattered nerves. They are also a specific for troubles peculiar to females, such as suppressions, irregularities and all forms of weakness. They build up the blood and restore the glow of health to pale and sallow cheeks. In men they effect a radical cure in all cases arising from mental worry, overwork or excesses of whatever nature. Pink Pills are sold in boxes (never in loose bulk) at 50 cents a box or six boxes for $2.50, and may be had of all druggists, or direct by mail from Dr. Williams' Medicine Company, Schenectady, N. Y.

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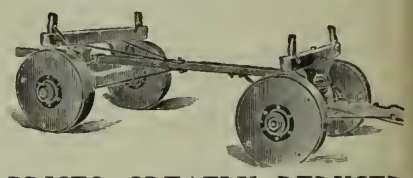

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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Oct. 14, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	210,420	1,675,276	862,651
Wheat, ctls	282,632	3,737,490	2,681,731
Barley, ctls	70,455	1,762,117	718,784
Oats, ctls	60	7,966	8,192
Corn, ctls	....	4,143	6,001
Rye, ctls	....	.....	.....
Beans, sks	6,220	63,100	45,492
Potatoes, sks	52	12,229	15,604
Onions, sks	....	3,130,112	5,561,200
Hay, tons	1,421	257,165	324,738
Wool, bales	21	800	4,046
Hops, bales	1,046	27,044	33,062

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	254,713	2,008,102	1,209,106
Wheat, ctls	321,617	4,052,879	2,567,837
Barley, ctls	126,950	2,463,634	1,270,089
Oats, ctls	18,791	163,026	211,513
Corn, ctls	1,560	39,374	27,326
Rye	800	10,946	11,471
Beans, sks	34,650	146,808	112,722
Hay, bales	21,302	306,968	310,633
Wool, lbs	4,725	49,925	44,311
Hops, lbs	2,922	58,751	57,179
Honey, cases	2,665	16,464	23,445
Potatoes, pkgs	389	2,667	2,803

Grain Freights and Charters.

Most of the deep-sea ships now arriving represent previous engagements, and have been taken in the main at fully as good, if not better, figures than could be realized at present. The market for grain freights to foreign ports cannot be termed firm, the supply of tonnage here and to arrive being fairly liberal as compared with all probable requirements of the season. Desirable iron ships for wheat loading are not quotable over £1 8s 9d on the customary charter option to Cork, for orders to United Kingdom, Havre, Antwerp or Dunkirk. One of the largest American ships afloat arrived under charter for wheat cargo to Liverpool direct at £1 6s 3d.

Charters.

British ship Cromartyshire, 1462 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 8s 9d, net—rechartered.

French bark Jules Verne, 1240 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 10s; direct port, £1 8s 9d—chartered prior to arrival.

British ship Kelat, 1822 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s; direct port, £1 5s 9d—chartered prior to arrival.

Ship Shenandoah, 3154 tons, wheat to Liverpool direct, £1 6s 3d—chartered prior to arrival.

British steamer Leander, 1888 tons, wheat to St. Vincent for orders, £1 7s 6d; if to two ports, £1 8s 9d—chartered prior to arrival.

British ship Sokoto, 2173 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 8s 9d; direct port, £1 7s 6d.

British steamer City of Dublin, 2155 tons, wheat to St. Vincent for orders, £1 8s 9d; if to two ports, £1 10s—chartered prior to arrival.

British steamer Kirkhill, 2347 tons, wheat to St. Vincent for orders, £1 7s 6d; if to two ports, £1 8s 9d—chartered prior to arrival.

German ship D. H. Wætjen, 2079 tons, wheat (November cancelling) to U, K., Havre, Antwerp or Dunkirk, £1 8s 9d, net—chartered prior to arrival.

British ship Frankistan, 1900 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d—chartered prior to arrival.

British bark Albyn, 2095 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d, net—chartered prior to arrival.

British ship Amazon, 1998 tons, now at San Diego, wheat and barley thence to U. K., Havre, Antwerp or Dunkirk, £1 6s 3d, net.

British ship Montgomeryshire, 1401 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d, net—chartered prior to arrival.

British bark Cambusdoon, 1522 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 8s 9d, net—chartered prior to arrival.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive.
1896	74,867	16,935	270,937
1895	62,921	16,731	296,884

Flour.

The same strong feeling last noted as existing in the flour market continues to be experienced, quotable values showing a further advance. Spot supplies are of quite moderate proportions, and are not apt to prove particularly burdensome in the near future. Especially does the market incline in sellers' favor for well-known marks of high grade. On some brands of indifferent quality and little or no reputation prices have to be shaded to buyers to secure custom.

Superfine, lower grades	$2 50@2 60
Superfine, good to choice	2 75@2 90
Country grades, extras	3 50@3 75
Choice and extra choice	3 85@4 15
Fancy brands, jobbing	4 25@4 40
Oregon, Bakers' extra	3 25@3 75
Walla Walla, Bakers' extra	3 25@3 75

Wheat.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	5s 2½d@5s 3d.	6s 4d@6s 5½d.
Freight rates,	25@27½s.	27½@28¾s.
Local market,	$0.93¾@96¼	$1.22½@1.27½

The prices above are for spot lots of standard No. 1 California in Liverpool, and for good to choice shipping in this city.

The unsettled and somewhat easier feeling developed in the wheat market, here and abroad, at the close of last review did not prove of long duration. The speculative market, always more or less spasmodic, has been especially so during the past few weeks, but the movements upward in values have been as a rule more pronounced than the declines, indicating a healthy and strong undertone. There is certainly good prospect for the wheat-growing industry again proving a fairly profitable one. A large steamer cleared from this port for India the past week with a cargo of 4500 tons of wheat, valued at $109,357. More wheat is expected to follow in the same direction. That India will draw very heavily on us for this product is not likely, but that she should require any wheat from us, having been such a heavy exporter, is almost phenomenal. Some argue that the wheat is not required by India, but is being shipped to break the market in that country. We doubt this, and still incline to the belief, as before expressed, that the wheat is being taken mainly for seed purposes. California, Oregon and Washington wheat during the past six months has been shipped to every quarter of the globe; to the British Isles and to Continental Europe, to Australia, to South Africa, and to Asia. Further inquiry on Australian account is again reported, and demand on European account is good. There is little likelihood of there being any necessity for carrying wheat over into next season. Market at opening of current week showed more firmness, both for spot offerings and options, than for any day of the preceding week. Tuesday and Wednesday the speculative market was wild, with the bull element in the lead. December wheat recorded an advance of 7c in the two days. The spot or sample market was naturally unsettled and against buyers, but spot values were not clearly defined.

California Milling	$1 25 @1 30
Cal. No. 1 shipping, alongside	1 22½@1 25
Oregon Valley	1 20 @1 25
Walla Walla Blue Stem	1 15 @1 27½
Walla Walla Club	1 15 @1 25

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, $1.20@$1.31¼.

May, 1897, delivery, $1.22⅛@1.32⅝.

Wednesday, at regular noon session of Call Board, December wheat sold at $1.29½@1.31¼; May, $1.31¼@1.32⅝.

Barley.

The outward movement in this cereal continues, although it is not so active as a few weeks ago. The exports for the season to date are the largest on record for corresponding period. The market has developed additional firmness since last review, and has been especially favorable to sellers for choice bright feed, which has been in good request for shipment, buyers giving this description in many instances the preference over standard Brewing and Chevalier, owing to the relatively stiffer figures demanded for latter kinds. Seriously faulty barley, either from foulness, stains or lack of weight, had to go at comparatively low prices, being salable only on local account. Market closed strong at the advanced quotations.

Feed, No. 1 to choice	77½@82½
Feed, fair to good	75 @80
Brewing, No. 1 to choice new	80 @90
Chevalier, No. 1 to choice	1 05@1 15
Chevalier, No. 2	72½90@

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, 79¼@88¼c; May, 1897, delivery, 86@91c.

Wednesday at regular noon session of the Call Board, December feed sold at 86@88¼c.

Oats.

The amount coming forward from any quarter is not large for this season of the year. Partly on account of light stocks and partly in sympathy with other cereals, the market is showing in the main a firm tone, more particularly so for choice to select, the positive demand at full current rates being confined largely to latter descriptions. Desirable qualities for seed are receiving considerable attention, and none less than Black Russian and Red, these being in favor for hay seeding.

White Oats, fancy feed	1 05 @1 10
White, good to choice	1 00 @1 05
White, poor to fair	85 @ 90
Gray, common to choice	90 @1 00
Milling	1 00 @1 10
Surprise, good to choice	1 05 @1 15
Black Russian	1 05 @1 15
Red	85 @ 95

Corn.

In common with markets for other cereals, corn has been tending against the buying interest, but no very radical advances have been established in quotable values. Offerings are light of all descriptions. Although there is more White in the interior than of any other sort, there is not much White offering here at present.

Large White, good to choice	82½@ 85
Large Yellow	82½@ 87½
Small Yellow	87½@ 92½

Rye.

In addition to the clearance of rye for Europe, noted last week, more of this cereal has gone aboard ship for foreign port. Market is firm at the advanced quotations noted herewith.

Good to choice, new	95 @1 00

Buckwheat.

There is not much coming forward from any source. Desirable qualities offering within range of quotations can be accommodated with prompt custom.

Good to choice	1 05 @1 10
Silverskin	1 10 @1 15

Beans.

A New York authority gives the following review of the Eastern bean market, prices stated being per bushel of 60 pounds:

Export trade has been light this week, but home jobbers have been inclined to buy a little more stock, and with moderate receipts and firm interior advices the market for white beans has ruled firmer. Choice Marrow have worked up gradually to $1.32½@1.35, with favorite marks now held at the latter price. Medium and Pea sold early in the week at $1.10, then at $1.12½@1.15, and toward the close there has been quite strong effort to establish $1.20. It has been paid in only rare cases as yet. The stock of small white beans is light, and the confidence of shippers leads to the belief that the market will not be burdened with them for some time. Exporters have wanted fewer Red Kidney; and with some accumulation of stock, and a feeling that they ought to be sold before new get here, the market has had an unsettled tone. Some choice lots have gone to shippers at $1.22½@1.25, with the usual trimmings off, but equally as good quality have sold on the market here for considerably less, down to $1.15, with fair lots at $1.10. Only a few White Kidney here and these are held firmly. Yellow Eye steady but quiet. Turtle Soup scarce and firmer; choice lots might exceed quotation. Not much doing in Lima, but no change in the situation. Green peas advanced early in the week, but have had quieter sale toward the close and are now barely steady. Scotch are strongly preferred by both export and jobbing trade.

The local market for beans has shown less activity than for a week or two preceding, shipping orders not being so numerous nor so extensive in volume as earlier in the month. Lady Washington and Pea beans, which had been most in request for shipment, inclined a little more in buyers' favor than last noted, but quotable values were not materially disturbed. Colored beans have ruled fairly steady, Bayos and Pinks constituting the bulk of offerings. Most of the beans which have arrived thus far this season, both white and colored, have showed very good average quality. Limas have been less favorable to buyers, with most of the trading in this variety at southern supply points. A sailing vessel clearing this week for Liverpool took 9000 sacks beans, and a ship cleared for New York with 15,330 sacks.

Pea, fair to good, 100 lbs	$1 10 @1 25
Small White, good to choice	1 10 @1 20
Lady Washington	1 05 @1 15
Butter, small	1 10 @1 25
Pinks	85 @ 95
Bayos, good to choice	1 05 @1 15
Reds	1 10 @1 25
Red Kidneys	1 25 @1 50
Limas, good to choice	1 85 @2 10
Black-eye Beans	1 10 @1 25
Horse Beans	70 @ 80
Garbanzos, large	1 70 @1 80

Dried Peas.

Market is moderately firm for choice to select of either Green or Niles, with offerings and spot stocks light.

Green Peas, California	$1 25 @1 60
Niles Peas	1 20 @1 30

Wool.

This market has ruled more quiet than preceding week, but where sales were effected they were at fully as good figures as previously quoted. Business was mainly on local scouring account, and for this purpose the Fall wools found custom at prevailing rates about as rapidly as offered. The desirable Spring now remaining is held in most instances above current values. Heavy and defective wools continue to be as badly neglected as previous noted.

SPRING.

Humboldt and Mendocino	10 @12
Northern California free	— @—
Northern defective	— @—
San Joaquin Foothill, good to choice	— @—
San Joaquin, 12 months	— @—
San Joaquin and Southern, 6 months	— @—
Nevada, as to condition	7 @ 9
Oregon Valley, select	9½@11
Oregon Valley, low grade	8 @ 9½

FALL.

Northern California free	5½@ 7
Northern defective	4½@ 6
Middle Counties free	6 @ 6½
Middle counties defective	5½@ 6
San Joaquin and Southern	3½@ 5

Hops.

Late mail advices give the following concerning the New York hop market.

Most of the interest this week has centered in the movement of stock in the producing sections, at home and abroad. From the Pacific Coast come advices of continued active buying and it is probable that more than half of the crop has already passed into dealers' hands. The bulk of the buying was at 5½@6½, but lately prices have been advanced in some sections and up to 7c has been paid for some of the best growths. We find no warrant for the statement that the total yield on the Coast was only 75,000 bales; the most reliable estimates are very close to 100,000 bales. In this State the buying has not been large, the superior quality of the western hops attracting the first attention of dealers. The complaint of qualitiy is very general in most sections, and we believe that it will prove a poor crop of hops, mainly from lack of proper cultivation. An exporter paid better than 9c for one or two lots, but the business reported has been chiefly in range of 6½@8. The unfavorable weather at the time the German crop was being picked undoubtedly lessened the quantity and injured the quality; at present the markets there are quite strong. England is steady but rather slow. Our local market has dragged along in about the same condition that it has been since the opening of the new season. Some confidence is felt in fine hops and there are reserved offerings of such, but it is difficult to get anyone interested in other grades.

This market shows the same lack of activity and absence of strength as have been characteristic features for many months. There are no evidences of very many hops having been purchased this season, either for local use or for shipment. About 13,000 bales were carried over from last year, and with this season's yield on this coast close to 100,000 bales, the prospects for a speedy clean-up of stocks, or of remunerative prices being soon established, cannot be considered first-class.

Fair to choice, 1896 crop	4 @ 6½

Hay and Straw.

The tendency on the better qualities of hay has been to a little more firmness, due rather to some decrease in receipts and offerings than to any noteworthy increase in the demand. The firmness which existed was mainly on the better grades of stable hay, the more common qualities moving about as slowly and at much the same easy range of values as quoted in preceding review.

Wheat	6 00@10 00
Wheat and Oat	6 00@ 9 00
Oat	6 00@ 8 50
Barley	6 00@ 8 00
Clover	6 00@ 8 00
Stock Hay	4 50@ 5 50
Alfalfa, first cutting	4 50@ 5 50
Alfalfa, second cutting	5 50@ 6 50
Compressed	6 00@ 9 00
Straw, ℔ bale	30@ 40

Millstuffs.

Bran is commanding tolerably firm fig-

WANTED,

BY A PRACTICAL

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NURSERYMAN,

A position as Superintendent or Manager. He has had a practical experience of over 20 years on several of the largest Fruit Farms in the State. Thoroughly versed in all the details of Growing, Planting, Cultivating, Packing and Drying. Strictly Sober, and not afraid to work. Can give as fine a set of Certificates as was ever produced. Nothing but first-class position wanted.

J. LUTHER BOWERS, Ukiah, Cal.

Wanted.

A young man wants work on a Stock Ranch with a view to learning the business. Wages no object. Address H. S., this office.

ures, but there is no scarcity of supplies, recent arrivals of this product from Oregon and Washington having been quite liberal. Middlings are not in heavy stock and are commanding fairly good prices. Rolled Barley was higher. Prices for milled corn tended upward.

Bran, ₱ ton	12 00@14 00
Middlings	15 00@18 00
Barley, Rolled	17 50@18 00
Cornmeal	20 00@20 50
Cracked Corn	20 50@21 00

Seeds.

Mustard Seed market is showing steadiness for desirable qualities, with fair shipping demand and only moderate offerings. Choice Brown, either cultivated or wild, is receiving more attention and more competitive bidding from buyers than the Yellow variety. Flaxseed has been ruling steady at the last quoted advance. Alfalfa continues to be offered at easy rates.

	Per ctl.
Mustard, Yellow	1 60@1 75
Mustard, Trieste Seed	2 60@2 75
Mustard, Wild Brown	2 00@2 50
Flax	1 25@1 50
	Per lb.
Canary	2½@2¾
Rape	2 @2½
Hemp	3¼@3½
Alfalfa, Utah	6½@ 7

Bags and Bagging.

There is practically nothing doing in Grain Bags and values for the same at the moment are little more than nominal. Wool Sacks are offering at old figures. In other Bagging the little doing is at generally unchanged values.

Grain bags, 22x36, spot	4¼@ 4½
Wool sacks, 4 lb	28 @—
Wool sacks, 3½ lb	26 @—
Gunnies	9 @—
Bean bags	4 @ 4¼
Fruit sacks, cotton	5½@ 7½

Hides, Pelts and Tallow.

Firmer markets are reported East for hides and the tendency here has been to improved values. Market for either pelts or tallow has shown little appreciable or quotable improvement, although No. 1 tallow is slightly higher.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @ 7	— @ 6
Medium Steers, 48 to 56 lbs	— @ 6	— @ 5
Light Steers, under 48 lbs	— @ 4½	— @ 4½
Heavy Cow Hides, over 50 lbs.	5 @ 5½	4 @ 4½
Light Cow Hides, under 50 lbs.	4½@ 5	3½@ 4
Wet Salted Kip	5 @ 5½	4 @ 4½
Wet Salted Veal	— @ 6	— @ 5
Wet Salted Calf	— @ 7	— @ 6
Dry Hides, round lots, 8@10c	10 @10½	7½@ 8
Dry Kip and Veal, 11 to 16 lbs	— @9	6½@ 7
Dry Calf, under 4 lbs	— @15	— @10
Horse Hides, large		75@1 00
Horse Hides, medium		50@ 75
Horse Hides, small		25@ 50
Colts' Hides		—@ 25
Pelts, long wool, per skin		50 @60
Pelts, medium, per skin		40 @50
Pelts, short wool, per skin		20 @35
Pelts, shearling, per skin		10 @15
Deer Skins, best summer		20 @25
Deer Skins, good medium		15 @20
Deer Skins, thin winter		7 @ 9
Elk Hides		7½@ 9
Tallow, good quality		2½@ 3
Tallow, No. 2		2 @—
Goat Skins, perfect		20 @35
Goat Skins, damaged		10 @20
Kid Skins		5 @—

Honey.

No new features have been developed in this market since last report. Only small quantities are arriving from points of production, and the amount in the hands of local dealers is comparatively light. Values are being well maintained, but outside of a light trade on local account, there is nothing doing.

White Comb, 1-lb frames	10 @—
Amber Comb	7½@ 9
Extracted, White Liquid	5 @ 5½
Extracted, Light Amber	4½@ 5
Amber Colored and Candied	3¾@ 4¼
Dark Tule	2¾@ 3

Beeswax.

Market is firm for high-grade, pure and light colored, with little of this sort obtainable. Dark and inferior qualities are not receiving any special attention.

Fair to choice, ₱ lb	24 @27

Live Stock and Meats.

Hogs have been bringing relatively higher figures in the interior than have been current in this center. Beef and mutton have been selling close to the figures last quoted. Following prices on beef and mutton are rates from slaughterers to dealers:

Beef, 1st quality, dressed, net ₱ lb	5 @—
Beef, 2d quality	4 @ 4½
Beef, 3d quality	3½@—
Mutton—ewes, 4½@5c; wethers	5 @5½
Hogs, hard grain fed, medium size, fat	2¾@ 2⅞
Hogs, large hard	2¾@ 2⅞
Hogs, soft and feeders	— @—
Hogs, country dressed	3½@—
Veal, small, ₱ lb	5 @ 6
Lamb, spring, ₱ lb	5½@ 6½

Poultry.

There has been no material change in the general condition of this market since last issue. Broilers which were fat and in every way desirable sold to fair advantage. Fryers and young roosters which were not full grown would not command much if any more than broilers. A few young and fat turkeys sold at comparatively good figures, some going higher than quotations. All old fowls, unless much larger than the average and in splendid condition, dragged at low prices. Three carloads of Eastern poultry were landed here within the week, interfering seriously with the sale of home product.

Turkeys, live hens, ₱ lb	12@ 13
Turkeys, live gobblers	12@ 13
Turkeys, large young	14@ 16
Hens, Cal., ₱ doz	4 00@5 00
Roosters, old	4 00@—
Roosters, young, (full-grown)	3 50@4 50
Fryers	2 75@3 00
Broilers, large	2 50@2 75
Broilers, small	2 25@2 50
Ducks, young, ₱ doz	3 00@4 00
Ducks, old	3 00@—
Geese, ₱ pair	1 25@—
Goslings, ₱ pair	1 50@1 75
Pigeons, Old, ₱ doz	1 00@1 25
Pigeons, Young	1 50@1 75

Butter.

With a continued decrease in arrivals of fresh product, there has been further improvement the past week in prices for choice to select from creamery and dairy. Common qualities of fresh did not receive much attention, except at prices fully if not more favorable to the buyers than those current on packed. Much of the butter now being turned out from both creameries and dairies is more faulty, as is customary at this time of year. Packed butter is in ample supply and is offering at unchanged rates.

Creamery extras, ₱ lb	22 @24
Creamery firsts	22 @23
Creamery seconds	21 @—
Dairy select	21 @22
Dairy seconds	15 @17
Dairy, soft and weedy	— @—
Mixed store	11 @13
Creamery in tubs	15 @16
Pickled roll	15 @16
Dairy in tubs	14 @15
Firkin, Cal., choice to select	14 @15
Firkin, common to fair	11 @12½

Cheese.

Market is lightly stocked with gilt-edged new, rich in body, mild in flavor, and in every way suited to the most particular trade. Such is being favored with custom at moderately stiff figures. Other descriptions are in fair supply and values for the same are barely steady, with demand by no means brisk.

California fancy flat, new	8½@ 9½
California, good to choice	7½@ 8½
California, fair to good	7 @ 8
California, "Young Americas"	8 @10

Eggs.

There are very few eggs now coming forward from any section which can be termed select. Uniformly large, white, clean and strictly fresh from near-by points are commanding tolerably stiff prices, in some instances an advance on figures justified as a quotation. More ordinary qualities of fresh have to come into competition with Eastern or local cold storage stock, and are consequently not favored with a very firm market. Eastern eggs were in fair receipt, but the better grades were more firmly held than preceding week.

California, select, large white and fresh	32 @33
California, select, irregular color & size	26 @30
California, good to choice store	20 @25
California, common to fair store	16 @18
Oregon, prime	20 @22½
Eastern, as to section and grading	22 @25
Eastern, seconds	16 @18
Duck eggs	20 @22½

Vegetables.

The variety is not so great as a few weeks ago, but of most sorts now in season there is enough offering to accommodate the existing demand. Onions and tomatoes continued plentiful and cheap. Choice corn was scarce and favored sellers. Okra and Lima beans sold fairly well.

Asparagus, Fancy, ₱ box	—@— —
Asparagus, common to good, ₱ box	—@— —
Beans, String, ₱ sack	—@— —
Beans, Wax, ₱ lb	—@— —
Beans, Garden, ₱ lb	2@ 3
Beans, Lima, ₱ lb	1@ 2½
Cabbage, choice garden, ₱ 100	50@ 60
Cauliflower, ₱ doz	40@ 50
Corn, Alameda Sweet, ₱ crate	75@ 1 25
Corn, Berkeley, ₱ crate	40@ 65
Corn, Green, ₱ sack	50@ 75
Corn, Vacaville and Winters, ₱ crate	—@— —
Cucumbers, Alameda, large box	20@ 35
Egg Plant, ₱ box	25@ 40
Garlic, ₱ lb	1@ 2
Okra, Green, ₱ box	25@ 40
Onions, Red, ₱ cental	—@ —
Onions, Yellow, good to choice	30@ 35
Peas, Green, ₱ sack	75@ 1 25
Peppers, Green Chile, ₱ box	25@ 50
Pepper, Bell, ₱ large box	40@ 50
Pickles, No. 1, ₱ 100 lbs	—@— —
Pickles, No. 2, ₱ 100 lbs	—@— —
Rhubarb, ₱ box	—@ —
Squash, Summer, ₱ large box	20@ 35
Squash, Cream, ₱ box	25@ 40
Tomatoes, River, per large box	—@ —
Tomatoes, Bay, ₱ box	10@ 30

Potatoes.

Stocks on wharves from Sacramento river section were not quite so heavy as preceding week and market presented a little better tone. Fine Salinas Burbanks continued in light stock and favored sellers. Oregon Burbanks will soon be on market in quotable quantity. A sample lot arrived this week. Sweets sold at a wider range, with market weak for other than best qualities.

IN SACKS.

Early Rose, River, ₱ cental	20@ 30
Peerless, River	—@ —
Reds, River	35@ 50
Garnet Chile, Mission	40@ 50
Burbanks, River	20@ 35
Burbanks, Salinas	60@1 00
Sweet Potatoes	75@1 25

The Fruit Market.

Fresh Fruits.

Stocks continue on the decrease, and the tendency is naturally to less assortment than earlier in the season. For most kinds values remain without pronounced quotable change, but the tendency on desirable qualities has been in the main to more firmness.

Peaches were in greatly decreased receipt, and market for this fruit tended decidedly in sellers' favor, quotations showing a substantial advance, especially for high-grade stock.

Apples make a fair display as to quantity and variety, but in the matter of quality the showing is not all that could be desired. Wormy and otherwise faulty apples are offering at low figures, and then do not move readily or in large quantities. Select stock, such as fancy Spitzenberg, was scarce and commanded top prices more readily than did common grades the lower figures current on the latter.

Pears are not arriving in large quantity from any quarter, and it is the exception where offerings prove tempting to the most fastidious class of customers, willing to pay good prices when the quality is to their suiting. Bartletts are now in such insignificant stock that they are hardly deserving of a quotation. Winter Nelis are beginning to arrive, but it is too early for this variety to be sufficiently ripe to be palatable or to be sought after for immediate use.

Grapes of table varieties are on market in sufficient quantity for all immediate needs. Prices remain about as last noted, with a rather easy undertone. The weather has been lately exceedingly favorable for prolonging the season for this fruit and allowing the grapes to mature in first-class shape. Wine grapes are quotably lower than last noted, with demand not sufficiently brisk to readily absorb all offerings of this sort.

Figs are in slim receipt and are not much sought after. Pomegranates are offering in moderate quantity, and continue to move slowly, the merits of the fruit not being extensively known or appreciated.

The melon season is rapidly drawing to a close, although there has been a fair supply this week of watermelons, cantaloupes and nutmeg melons. The weather was in the main favorable for this class of fruit, and fairly good prices prevailed.

Berries have not much of a representation on market at present, as is to be expected at this late date. Demand being mainly of an indifferent order, there is little change to note in values, market being rather weak in tone, despite very limited receipts.

Apples, fancy, 4-tier, per box	1 00@ 1 25
Apples, good to choice, 50-lb box	75@ 90
Apples, fair to good, 50-lb box	50@ 75
Apples, common, ₱ 50-lb box	25@ 40
Crabapples, ₱ box	—@ —
Figs, Black, ₱ 2-tier 15-lb box	50@ 75
Figs, Black, ₱ 1-tier box	25@ 50
Figs, White, ₱ box	—@ —
Nectarines, Red, ₱ box	—@ —
Nectarines, White, ₱ box	—@ —
Prunes, Falkenburg, ₱ crate	—@ —
Prunes, Hungarian, ₱ box	—@ —
Prunes, German, ₱ 50-lb. box	—@ —
Peaches, fancy wrapped, ₱ box	75@ 1 00
Peaches, Freestone, ₱ ton	—@— —
Peaches, good to choice, ₱ box	50@ 75
Peaches, Cling, per ton	—@— —
Pears, Bartlett, ₱ ton	—@— —
Pears, Bartlett, No. 1, per box	1 25@ 1 50
Pears, Winter Nelis, No. 2, per box	50@ 1 00
Pears, other kinds, ₱ box	25@ 75
Plums, choice, large, ₱ box	—@ —
Plums, other kinds, lb box	—@ —
Plums, ₱ crate	—@ —
Pomegranates, ₱ box	50@ 75
Quinces, ₱ box	50@ 1 00
Nutmeg melons, ₱ box	50@ 75
Watermelons, per 100	5 00@10 00
Cantaloupes, per crate	1 00@ 1 50

Berries.

Blackberries, ₱ chest	3 50@ 4 5
Currants, Red, ₱ chest	— —@— —
Raspberries, ₱ chest	4 00@ 5 00
Strawberries, Longworth, ₱ chest	— —@— —
Strawberries, Large, ₱ chest	2 50@ 4 00
Whortleberries, ₱ lb	10@ 12½

Grapes.

Black Hamburg, ₱ box	30@ 45
Cornichon, ₱ box	50@ 60
Fontainebleau, Cal., per crate	—@ —
Fontainebleau, Cal., per box	—@ —
Isabella, ₱ box	50@ 75
Muscat, per box	30@ 45
Muscat, ₱ crate	40@ 55
Muscat, ₱ ton	12 00@14 00
Rose of Peru, ₱ box	30@ 45
Rose of Peru, ₱ crate	40@ 50
Royal Isabella, ₱ crate	1 00@ 1 25
Seedless Sultana, ₱ box	—@ —
Tokay, ₱ crate	40@ 65
Zinfandel, ₱ ton	20 00@25 00

Dried Fruit.

The following summary of the Eastern dried fruit market is from a New York circular:

Evaporated apples begin to arrive more freely and the general market has shown rather an easy tone. Jobbing demand for top grades is gradually improving and these have been better sustained than prime and lower qualities. Exporters have already contracted for a great deal of fruit for delivery up to January 1, and while they still show interest the bids are mostly below what makers seem willing to accept. The crop in the North is very heavy, but there is a price below which evaporators cannot dry the fruit. Present sales of fancy apples are at 5¼@5½c, latter for a very high grade, and choice at 4½@4¾c. Prime are held generally at 4¼c, and reach that figure in a small-ish way; shippers rarely bid above 4c. Some fair stock, made from early fruit, sold at 3½c, and poorer lots, especially damp apples, are neglected and wholly nominal. There is every indication that the grading will be higher this year, and lots that were accepted last year as choice will not pass for more than prime. Nothing doing in old apples. Only a few Southern sun-dried apples arriving and these work out slowly at 2@3½c, latter for fancy North Carolina sliced. Scarcely any quarters offering. Chops slightly weaker; last sale reported at $1.60 for this month's shipment. Cores and skins offering with more reserve and firmer. Very few Southern peaches made this year. Raspberries doing a little better; most sales of evaporated at 14c, but ¼@½c more asked for some lots. Sun-dried stock from the South is mostly poor and sells low. Cherries steady. Huckleberries lower; best lots offering at 7c. Blackberries quiet but fairly steady. Apricots active and strong. California peaches moving better and feeling somewhat firmer.

There is less activity to record in the dried fruit market than was experienced for a fortnight or more preceding last issue. Greatly reduced stocks and advanced views of holders have had considerable to do with bringing the volume of business within smaller compass. Buyers in many instances are disposed to wait and use up their present holdings before paying the higher figures now generally demanded. Inquiry is at present mainly on Eastern account, the European demand having been fairly satisfied for the time being. Australia is now nearing her mid-summer and fruit season, so there is not likely to be much more call for dried fruits from that quarter in the near future.

The market presents in the main a healthy tone, however, with prospects of current values being maintained, and a clean-up of most descriptions being effected before another season opens. The prospect is particularly encouraging for an outlet being found for all remaining supplies of apricots, prunes and high-grade peaches, these meeting with the most inquiry.

The prune market is again higher and firm at the advanced figures. A large quantity of this fruit has been already placed, and the yield is not coming up to early anticipations. For 40-50's holders are now asking 5¾c. The silver prune is in light stock and choice is commanding up to 5c. in a jobbing way.

Pears are still obtainable in considerable quantity, but offerings do not include many Bartlett halves of fancy quality, the only sort in urgent request. The Apple market remains firm, particularly for choice evaporated, which

DRIED FRUITS.

We handle Dried Fruits: get our prices. Also Nuts, Honey, Wool, Hides, Grain, Etc., Etc. Our "WEEKLY SPECIAL" this week has the following:

Salmon, 1-lb. tins, sound meat, per doz	$ .95
Rolled Oats, 90-lb. sack for	1.90
Coffee, straight whole roast, per lb	.17

And many other bargains. Get our lists.

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are being held up to 6c., but this figure is beyond the views of wholesale buyers.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	7½@ 8
Apricots, Royal, fancy	9 @10
Apricots, Moorpark	10 @13
Apples, in boxes	5 @ 6
Nectarines, White	4½@ 5
Nectarines, Red	3½@ 4
Peaches, unpeeled, prime to choice	3½@ 4½
Peaches, unpeeled, choice to fancy	4½@ 7
Peaches, peeled, in boxes	9 @11
Pears, peeled and sliced	4 @ —
Pears, unpeeled Bartletts, halved, fancy	6 @ —
Pears, halved, unpeeled Bartletts	4 @ 5
Pears, quartered, unpeeled Bartletts	3 @ 4
Plums, pitted	3½@ 5
Prunes, in sacks, 4 sizes	3½@ —
Prunes, in sacks, small sizes	2½@ 3

COMMON SUN-DRIED.

Apricots, ordinary	5½@ 7
Apples, sliced	2½@ 3
Apples, quartered	2½@ 3
Figs, Black	2½@ 3
Figs, White	3 @ 4
Peaches, unpeeled	3 @ 3½
Plums, unpitted	1½@ 2

Raisins.

The raisin market is in generally healthy condition, with values steadily hardening as the season advances. The bulk of the crop will likely have passed into second hands before the expiration of the coming month, and it is desirable that this should prove to be the case. There is not likely to be extensive wholesale inquiry during the late winter months. Quotable values for all grades of loose Muscatel and also for Sultanas show a further advance.

Imperial Clusters, per box	2 50 @ —
Dehesa Clusters, per box	1 75@ 2 25
Fancy Clusters, per box	1 40@ 1 50
Boxes, London layers, 20-lb box	1 05@ 1 10
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ℔ lb	4½@ —
Loose Muscatel, 3-crown	3½@ —
Loose Muscatel, 2-crown	3 @ —
Sultanas	4½@ —
Seedless Muscatel	2½@3½
Dried Grapes	2½@3

Citrus Fruit.

Lemons are in fair supply for this advanced date in the season. Values are being tolerably well maintained for well cured of desirable sizes, but on ordinary qualities buyers are able to dictate low figures. Limes were in moderate stock and were held about as last quoted.

Oranges—Wash. Navels, ℔ box	— —@— —
Cal. Mediterranean Sweet	— —@— —
Cal. Seedlings	— —@— —
Cal. Valencias	— —@— —
Grape Fruit, ℔ case	— —@— —
Lemons—Cal., select, ℔ box	2 50@ 3 00
Cal., good to choice	1 50@ 2 00
Cal., common to good	1 00@ 1 50
Limes—Mexican, ℔ box	5 00@ 5 50
Cal., small box	1 00@ 1 25

Nuts.

Most of this year's crop of both Almonds and White walnuts has already passed out of the hands of growers, fairly good figures having been realized in the majority of instances. Present market is showing steadiness, and there is nothing to warrant anticipating any special fluctuations in values during the balance of the season.

California Almonds, paper shell	9½@10
California Almonds, soft shell	7½@ 8
California Almonds, standard	6½@ 7
California Almonds, hard shell	5 @ 5½
Walnuts White, paper shell	9 @10
Walnuts White, soft shell	8 @ 8½
Walnuts White, Cal., hard shell	6½@ 7
Chestnuts, Cal. Italian	10 @12½
Peanuts, Cal., fair to prime	4 @ 5
Peanuts, Eastern hand-picked	5 @ 6
Pine Nuts	12½@15

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING SEPTEMBER 29, 1896.

568,596.—REDUCING ASPHALT—J. W Barnes, S. F.
568,658.—FIRE EXTINGUISHER—J. Buchtel, Portland, Or.
568,659.—SPRAY NOZZLE—J. Buchtel, Portland, Or.
568,563.—CULTIVATOR—J. F. Ebersole, Salem, Or.
568,609.—STOVE DRAFT—T. B. Gilmour, Dayton, Wash.
568,681.—CLEANING WHEAT—Hibberd & Herlitz, Port Costa, Cal.
568,682.—ADHESIVE DEVICE—A. A. Honey, Tacoma, Wash.
567,488.—WAVE MOTOR—Lemon & Bartlett, Los Angeles, Cal.
568,625.—FOLDING CHAIR—H. Owens, Montesano, Wash.
568,701.—LOCK—W. D. Roberts, Portland, Or.
568,460.—SCREW DRIVER—M. H. Schay, Tacoma, Wash.
568,593.—BICYLE SEAT SUPPORT—C. H. Watson, Riverside, Cal.

NOTE.—Copies of U. S. and Foreign patents furnished by Dewey & Co. in the shortest time possible by mail or telegraphic order). American and Foreign patents obtained, and general patent business for Pacific Coast inventors transacted with perfect security, at reasonable rates, and in the shortest possible time.

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Bet. California and Pine, SAN FRANCISCO, CAL.

California Fruit Sales.

CHICAGO, October 7.—California fruit sold today as follows: Pears—Bartlett, $2.20@2 40 per box and 65c a half-box; Winter Nelis, $1.50 a half-box. Grapes—Tokay, 55c@$1.15 per single crate; Muscats and assorted, $1. Peaches—Salway, 75@85c per box.

NEW YORK, October 7.—California fruit sold today as follows: Grapes—Tokay, $1.50@2.30 per crate; half-crates, 75c@$1.35; Muscats, 75c@$1; Morocco, $1; assorted, 80c@$1.15. Pears—Comice, $1.75@2.95; Duchess, $2.25.

CHICAGO, October 8.—California fruit sold to-day as follows: Grapes—Muscat, $1.15@1.25; Tokay, 70c@$1.10. Peaches—Salway, 90c@$1.05. Pears—Bartlett, $1.70; Glout Morceau, $1.65; Kiefer, $1.35@1.45.

NEW YORK, October 8.—California fruit sold today as follows: Grapes — Assorted, $1.20@2.90; Muscat, $1.05@2.39; Tokay, $1 @ 1.75; Cornichon, $1.30@1 70; Black Morocco, $1.50@1.65—all single crates.

NEW YORK, October 9.—California fruit sold today as follows: Grapes—Tokay, $1.85@3.25 per crate; half-crate, 95c@1.95; Malaga, $1.25@1.35. Plums—Coe's Late Red, $1.25.

NEW YORK, October 12.—California fruit sold today as follows: Pears—Bartlett, $2.75@3.30 per box and $1.20@1.65 per half-box; Glout Morceau, $2.85 per box; Winter Nelis, $1.40 @ 2.85; other varieties, $1@1.40 per box and 65@$1.20 per half.box. Grapes—Tokay, $2.45 per double crate and 85c@$1.80 per single; Black Morocco, 90c@$1.80 per single crate; Muscat, 80c@$1.65; Cornichon, $1.55; assorted, 90c@$1.35. Quinces—$1.75 per box. Plums—Coe's Late Red, $1.15 @ 1.25 per half-crate. Peaches—Salway, 70c.

CHICAGO, October 12.—California fruit sold to-day as follows: Pears—Winter Nelis, $1.56 per box; Bartletts, $1.15. Peaches—Salway, $1.05 per box. Grapes—Muscats, $.20 per single crate; Cornichons, 70c@$1.10; Tokay, 45@85c; Black Morocco, 65c.

CHICAGO, October 13.—California fruit sold to day as follows: Grapes—Muscat $2.35@$3.60 per crate; half-crates, $1.20@$1.30; Tokay, $2.05@$2.25 per crate; half-crates, $1.05@$1.15.

NEW YORK, October 13.—California fruit sold to-day as follows: Grapes—Assorted, $1.15@$1.95 single crates; Tokays, $1.45@$1.85 double crate and 80c@$1.50 single; Muscat, 85c@$1.40 single crate. Quinces—$1 55 per box. Peaches—Bilyeaus, $1.45 per box.

STATE OF OHIO, CITY OF TOLEDO, } ss.
LUCAS COUNTY,

FRANK J. CHENEY makes oath that he is the senior partner of the firm of F. J. CHENEY & Co., doing business in the City of Toledo, County and State aforesaid, and that said firm will pay the sum of ONE HUNDRED DOLLARS for each and every case of CATARRH that cannot be cured by the use of HALL'S CATARRH CURE.

FRANK J. CHENEY.

Sworn to before me and subscribed in my presence, this 6th day of December, A. D. 1896.

{SEAL} A. W. GLEASON, *Notary Public.*

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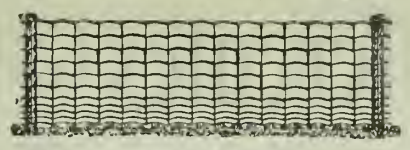

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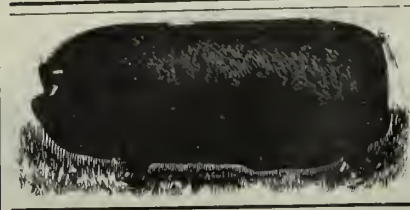

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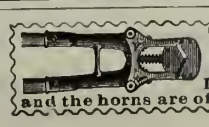

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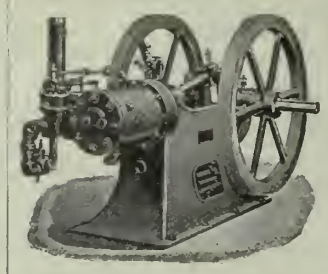

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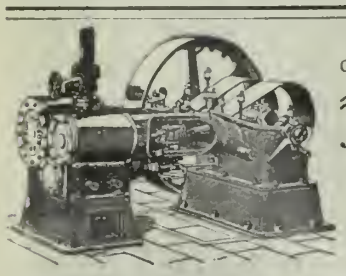

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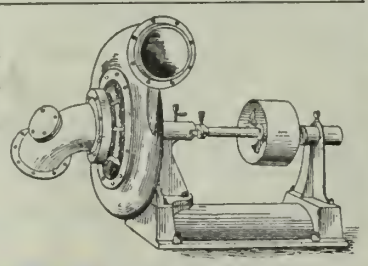
Jackson's GAS —AND— OIL ENGINES.



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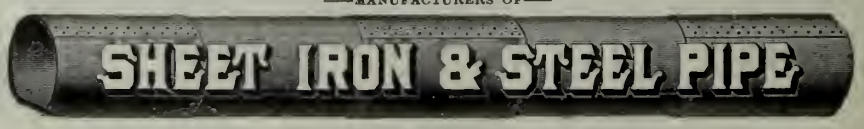

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THE PACIFIC RURAL PRESS AND CALIFORNIA FRUIT BULLETIN.

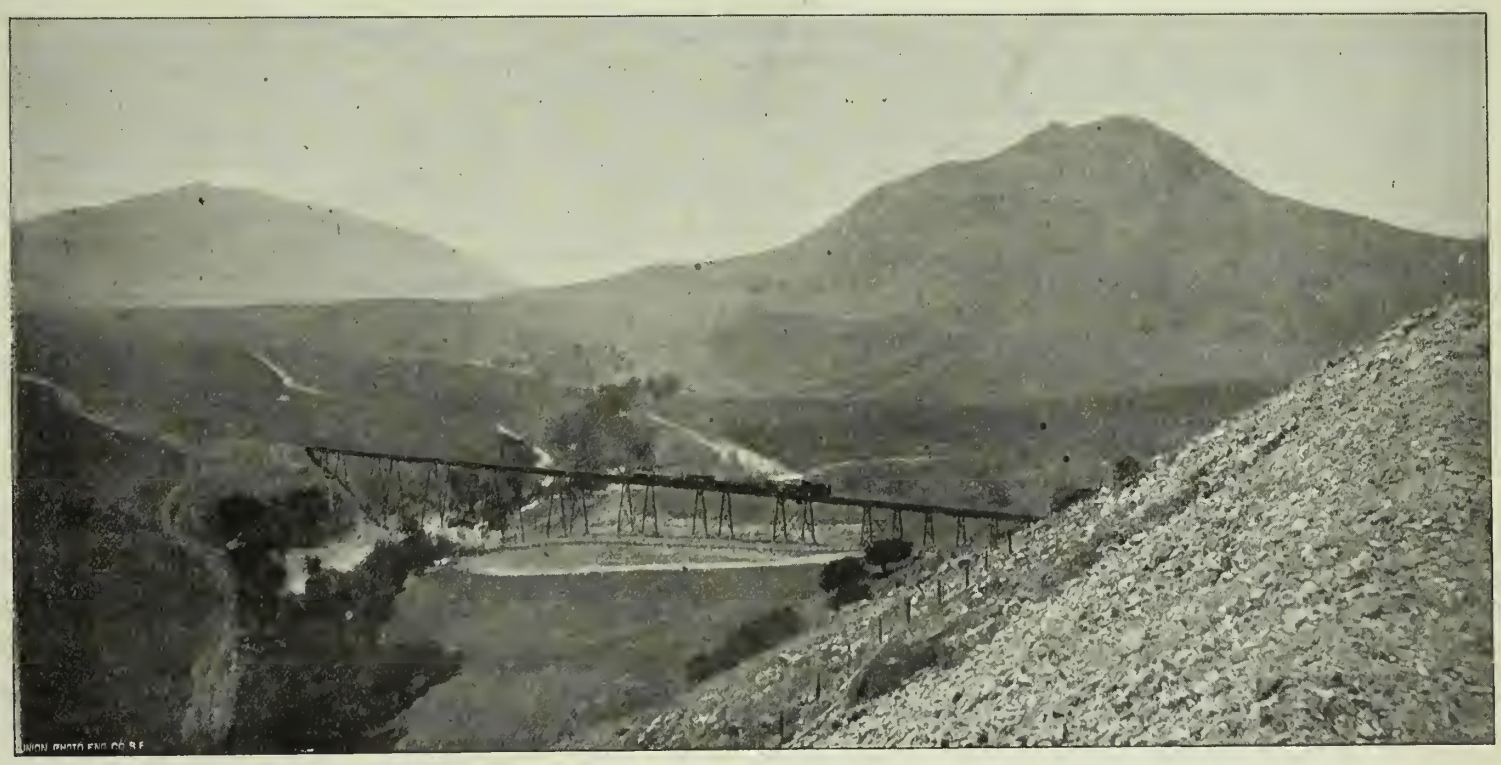
Vol. LII. No. 17. SAN FRANCISCO, SATURDAY, OCTOBER 24, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.

This paper not to be taken from the library.

The Approach by Rail to San Luis Obispo.

The new era for the coast side of San Luis Obispo county will begin when its rich and varied lands shall be traversed by the main line of an overland railway. The opening of this era must be accounted a progressive affair, for years have been occupied in its successive steps and the last of these is still some months in the future. Still the full realization of the hopes of the people must soon be attained, and the unfolding of the beauties and resources of the county to the throngs of people who will pass to and from San Francisco by a rail route, inexpressibly more comfortable and picturesque than any yet constructed, will bring forward this portion of the State to the favor of the world as it has not been hitherto.

It is twelve years since the Southern Pacific determined upon the construction of a shore line through San Luis Obispo, Santa Barbara and Ventura counties as their main southern overland route. Two ranges of mountains made the construction expensive and slow. Building began from both ends in 1885, and very soon the lines approached the barriers; the southern extension reached the foot of the Santa Lucia mountains and the northern extension encountered the problem of the Santa Ynez mountains northward from Santa Barbara. Going southward the traversing of the Santa Lucia range called for cuts and tunnels almost beyond number, and it was a decade from the beginning before the south-bound train ran through its devious courses into the city of San Luis Obispo in 1894. Construction has continued since that time, and the doubling of the Santa Ynez by a coast line is now nearly finished. It is then but a few months before the grand opening may be expected.



STENNER CREEK BRIDGE ON THE CROSSING OF THE SANTA LUCIA MOUNTAINS.

SCENE ON THE WESTERN SLOPE OF THE SANTA LUCIA MOUNTAINS APPROACHING SAN LUIS OBISPO.

Our engravings give a better idea of the country traversed to approach San Luis Obispo from the north. The views do not present the most interesting features of the route; in fact they treat of the mildest features of the scenery. The San Luis Obispo *Tribune* from the souvenir edition of which we take these views, atones for the prosaic character of its views by a description which will enable the reader to better appreciate the facts in the case. The Santa Lucia range maintains a general elevation of 2500 feet, with the pass of San Luis, or the Cuesta, having an elevation of 1556½ feet above the sea, and 1256 feet above the depot grounds in San Luis Obispo, less than five miles distant. To reach this a tunnel 3616 feet long and 200 feet below the summit of the pass was necessary, then turning northwestward another tunnel of 1400 feet, and six others from 900 to 250 feet in length through projecting ridges, with corresponding fills, culverts and bridges, turning to the southward again on a great horseshoe fill in Chorro valley, and crossing Stenner creek by an iron and steel bridge, 960 feet long and 85 feet high, and over such a route the road is made to San Luis Obispo. But few people comprehend the magnitude of the work, nor its substantiality or cost. There is nothing of the kind surpassing it in the United States, nor any road affording more picturesque or pleasant scenic views. A precipitous mountain slope is traversed through many dark tunnels, by many shelf-like cuts in mountain side overlooking hills and valleys and the distant ocean, and over a bridge of airy architecture at a dizzy height and to a depot, with the whole of the pretty little city of San Luis in view.

PACIFIC RURAL PRESS.

Office, No. 220 Market St.; Elevator, No. 12 Front St., San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

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Any subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

Our latest forms go to press Wednesday evening.

Registered at S. F. Postoffice as second-class mail matter.

ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, October 24, 1896.

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The Week.

The following data for the week ending 5 A. M. Wednesday, Oct. 21, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	.02	1.16	3.30	3 18	62	44
Red Bluff	....	1.17	1.92	1.69	90	52
Sacramento	....	.52	1 30	.98	*	50
San Francisco	....	.66	.86	1.06	71	47
Fresno	T	.26	.23	.60	88	52
San Luis Obispo	....	.24	1.78	*	80	42
Los Angeles	....	.07	.23	.72	90	50
San Diego	.08	.14	.23	.55	76	58
Yuma	T	.52	.02	.82	94	58

* Indicates no record.

Canned Fruits in Demand.

For the first time in five years it is said stocks of canned fruits will be cleared up before next season begins. Of the estimated product of 1,250,000 cases all but 400,000 have been sold at an increase of 5 cents above opening prices, which were a trifle above those of last year. One concern is reported to hold three-quarters of the amount on hand, and yesterday it made a second increase of 5 and 10 cents a case. In the first category comes peaches, pears and cherries. Cling peaches have been advanced to $1.35 a dozen, yellow free to $1.15, pears from $1.17½ to $1.20, and cherries to $2 25 from their original figure of $1.60. Apricots, plums and berries have gone up 10 cents a dozen. Apricots are now 97½ cents and $1, plums are $1 and berries are held at from $1.15 to $1.45. The early sales at low prices were principally made to England, the United States, except in the extreme East, purchasing only from hand to mouth. Orders are now coming in, but the late buyers will have to pay a heavier tribute to California. Some vegetables have also gone rapidly. Fontana & Co., for instance, packed 100,000 cases of tomatoes, of which 90,000 were sold locally.

Bean Growers Unite.

The *Venturian* reports that a very important meeting of Lima bean growers was held last week at the Montalvo school house. The men who met practically control the Lima bean crop, and they formed an organization agreeing to hold this year's crop for 2 cents and refuse to sell for less. They propose to send a man East to make contracts direct with wholesalers in carload lots, thus saving the middleman's profits. Hon. Marion Cannon was made president and A. F. Maulhardt secretary of the association, and the members represent 400,000 sacks. The estimated product in this county at present is 425,000 sacks. As Ventura county and a portion of Santa Barbara county are the only places where Limas can be successfully grown in quantities, this organization is a most important one, and if the growers are true to their pledges and their best interests they will have a great deal to say in fixing prices. One important provision in their contract is that in case a grower is compelled to sell the association will take his product at a slight reduction from the price fixed by them, to cover interest and storage, and pay the producer cash, thus obviating all need or desire for one grower to undersell his neighbor. The beet growers are included under this organization, and much discussion was had concerning their interests.

First of the New Oranges.

A Los Angeles dispatch of the 19th inst. says: The first carload of the new crop of oranges to be shipped East this season was sent out to-day noon by the Fay Fruit Company of this city via the Santa Fe route. The fruit is of the budded seedling variety, was grown in the Cahuenga valley, and is well colored and remarkably sweet. This is the first carload shipped of the new crop of oranges from California this season, not excepting the early fruit which usually goes out from the Placer county points in the northern part of the State and the Porterville district, near Fresno. This first shipment is one month earlier than the first shipment last season.

Things Are Looking Better.

To-day (Oct. 20th) shipping wheat is worth $1.45 per cental in the San Francisco market, having advanced from 96¼c since Sept. 1st. Oct. 20th, 1895, it was quotable at 96¼c. To-day No. 1 barley is worth 80@82½c, as against 63¾@65c Sept. 1st. Oct. 20th, 1895, barley was 62½@70c. To-day choice oats are worth $1.20@1.25, as against 82½@90c Sept. 1st. Oct. 20th, 1895, the same grade oats was worth 65@72½c. To-day hops are worth 5@7½c, as against 2@4c Sept. 1st. One year ago hops were quotable at 5@6c. To-day wheat hay is worth $8@11, as against $6.50@8 on Sept. 1st. One year ago to-day wheat hay was quotable at $8@10.50. To-day white beans are worth $1.40@1.60, as against 90c@$1.05 on Sept. 1st. One year ago to-day they were selling at $1.10@1.30. To-day first quality beef (dressed stock) is worth 5@5½c per pound, as against 4½@5c on Sept. 1st. One year ago beef was selling at 5@5½c. To-day live hogs are worth 2¾@3c per pound, as against 2¾@3c on Sept. 1st. One year ago live hogs were selling for 2¾@3¼c per pound. To-day choice dried peaches are worth 5@6½c per pound, as against 3½@4½c on Sept. 1st. One year ago choice peaches were selling at 4@5c. To-day choice apricots are worth 11½@12½c, as against 9@10c on Sept. 1st. One year ago they were selling at 8½@9½c. To-day prunes are worth 3½@4c per pound for the four sizes, as against 2¾@3c on Sept. 1st. One year ago prunes were selling at 3¼@3½c. To-day choice apples are worth 75c@$1 per box. One year ago they were selling at 40@75c. To-day four-crown, loose raisins are worth 5c per pound, as against 3½@4c on Sept. 1st. One year ago the same grade raisins were selling at 3½c per pound.

These facts have a tremendous meaning. They signify that in almost every department of our domestic production there has come a prodigious change for the better. The market now, for the first time in several years, is generally favorable to the seller—favorable not alone in improved prices, but in the changed attitude between buying and selling interests. In recent years the California producer has been seeking the buyer. To-day the shoe is on the other foot, for the buyer is seeking the producer. In recent years, too, the markets have been weak and slow. To-day they are firm and eager.

It is of course impossible to trace in accurate detail all the causes of this sudden betterment, but they appear to have a basis in sound economic conditions, and, therefore, to be entirely legitimate, and to bear every prospect of reasonable permanence. In the matter of wheat it has already been explained in these columns why the world's supply is short. Partial crops in India, Argentine and Russia have something to do with it; but even if there had been the usual and normal production in these countries, it would not have brought the figures of supply up to the figures of demand. It appears that there has been a permanent decline in wheat production in England and on the European continent, and that even in India lands formerly given up to wheat culture have been appropriated to other uses. On the other hand, the wheat-eating habit of the world is increasing, and the annual requirement is much greater than it was a few years back. The enormous populations of Asiatic India are coming to be consumers of wheat, as are also the higher class Chinese, and it is declared that it will not be long before Indian consumption will more than counterbalance the Indian production, which of late years has been such a disturbing factor in the world's markets. Under these circumstances, it is not unreasonable to hope that good prices for wheat have come again to stay—at least, for some years.

In regard to fruit, beans, nuts and other special lines of California production, it is impossible to disregard the evidence which connects the better prices current with the political prospects of the hour. The main reason why, for a long time, there has been dull sale and low prices is that there has been a long shut-down in the manufacturing industries of the country. Whatever the outcome of the pending contest is to be in fact, the opinion is general among those who handle our products in the Eastern markets that it will be favorable to manufacturing industry and consequently stimulating to the market for the better sort of food products.

What we see to be good for California is equally good for the country at large. The general advance in wheat has almost its counterpart in an advance in cotton, which means much for our Southern States. Tobacco is higher; corn is tending upward; and even wool—the most depressed of all our great national staples—is looking up a little, in the hope of better tariff conditions. That our general exports are increasing is manifest not alone in the heavy inflow of gold from Europe but in the advance in charter rates and in the fact that tonnage from all over the world is hastening to our ports seeking the traffic which presses for ship room.

If the change is what it appears to be, namely, the beginning of a season of good times, we shall soon see very surprising things in California. The difference between the prices current of sixty days ago and those of to-day is, in the country, the difference between universal discouragement and industrial lassitude and of hopefulness and renewed energy. In the trading centers it marks the difference between impending bankruptcy and general prosperity. If all conditions continue, as they now promise, for the coming ninety days, there will be such a stir in the way of revived agricultural industry as we have not seen for a long time past. This, of course, will involve activity along all the lines tributary to or dependent upon the agricultural interest.

Considerations Affecting the Demand and the Price for Dried Fruits.

For the first time in five years conditions in the dried fruit market are favorable to the seller. The season opened with low prices and with moderate business, but the demand has steadily improved and prices have steadily advanced; and, while there are no indications of a boom, it looks as if there would be an active, healthy and profitable trade throughout the season. Although prices are not fancy, nor likely to be, they are ahead of last year; and, what is equally important with better prices, growers are able to sell *at home* and *for cash*.

The idea appears to be general that this betterment of conditions is a consequence of a new direct demand from Europe for our dried fruits; but, in reality, the foreign demand is but a single factor in the situation, and not a very large one at that. Its rank among the several causes of improvement is distinctly subordinate; and if it were to cease entirely the effect would scarcely be perceptible. It is worth while to consider what these causes are, and we shall undertake to do so in the order of what seems to be their relative importance:

First—For the first time in several years there was no carry-over stock from previous years. When the season opened the Eastern market was bare and the California warehouses were empty. Last year's buying policy on the part of the Eastern trade was in small lots—"from hand-to-mouth" in trade parlance—and under it no stocks were accumulated, though it sufficed, first and last, to clean up the whole available supply. Thus the decks were clear for the present season's product as soon as it was ready for delivery—a situation in marked contrast with that of the previous year, when the season

opened with large carry-over stocks, both in the East and at home.

Second--The season's production was, in comparison with recent years, a moderate one. Under the circumstances in which our dried fruits are marketed and shipped, it is never possible to know the out-put of any season until the season has closed; but while the exact deficiency of the present year cannot yet be stated, final figures are not required to demonstrate that it is very considerable. Estimates vary as to the amount of this deficiency, some putting it very high and others very low; but we believe the average judgment places the production of 1896 not much above five-eighths of a maximum yield. To this condition was added the fact that the ideas of first holders early in the season was not over high—a fact favorable to the beginning of a season's trade.

Third—The agitation against the system of consignments to the Eastern markets, originating last season in evils still fresh in the public memory, and in which the RURAL PRESS bore the leading part, has yielded good fruit. It is safe to say that the consignments of the present season to the date of this writing aggregate not more than five per cent of the consignments of last season. This reform has come about measurably through the refusal of individual growers to let their goods go out of hand until their price has been laid down; but it is only fair to add that the result is due to even greater extent to organized opposition on the part of the San Francisco dealers to the consignment system. Early in the season some twenty or more firms—including most of the large handlers—entered into a formal agreement to demand spot cash upon delivery; and, while this agreement has not been lived up to with absolute fidelity, it has in the main controlled the trade of the season thus far, and promises to do so to the end. The Eastern people were not at first ready to believe that the consignment "snap" was off and were a little slow to accept the new rule; but, under the pressure of retail demand upon a market practically bare, they have come to it. And, now, with a further continued co-operation on the part of our own people, the consignment mischief may be deemed at an end, at least for the present season.

Fourth—A fourth reason why there is better trade in our dried fruits is related closely to current political matters, but we shall not for that reason be deterred from giving the facts as they appear in the correspondence of every large fruit house in this city. There is a general feeling on the part of Eastern buyers that the outcome of the pending Presidential contest is going to be favorable to the interests of home manufacture. They believe that there will be a reformation of tariff laws in the way of increased protective duties, and that this will be followed by better conditions in the manufacturing districts; and it is in these districts that the largest consumptive market for our dried fruits exists. Another fact closely related to market conditions is that the more recent aspects of the campaign have served to dissipate fears, quite general in the East in midsummer, that the stability of our financial system is in danger. If it were possible to deal frankly with current conditions in the dried fruit trade, without reference to even semi-political subjects, we should have preferred to do so; but it would be affectation to refrain from namiug matters which so profoundly affect the markets at this time.

Fifth—It is not until we come to the consideration of number five in the descending scale that the foreign demand deserves to be named. It is not, as many appear to think, a wholly new thing, though it is the first time that it has assumed the form of a direct trade. For several years past it has been the habit of foreign merchants, notably Germans, to take more or less of our peaches and apricots; and, being very discreet buyers, they have not failed to avail themselves of the advantage afforded by cheap consigned goods to be had at the Atlantic seaboard centers cheaper than in California. Now and again direct purchases have been made, but in the main their source of supply has been cheap consigned stocks. Last year they bought heavily of our prunes direct; and this year, owing to the shut-down in consignments and to the establishment of favorable conditions by the transporting interest, their whole purchases have been drawn direct. Partial failure in the home supply has to some extent stimulated this demand, but it is the change in the method of purchase, rather than the increase of quantity purchased, that is especially notable. The whole amount bought on foreign account this season is, we believe, much less than it is by common opinion held to be. It is the judgment of those who are best qualified for prophecy that there will be a permanent foreign demand for some kinds of our fruit. Peaches, apricots and nectarines ought to find a permanent market in Germany; and for the present we ought to be able to supply the same market with considerable lots of fancy pears. Eventually, however, they are all pretty sure to learn our methods of evaporating pears, of which fruit they have an excellent domestic supply. Their present method of curing is to half bake in kitchen ovens.

The improvement in the raisin market rests upon considerations almost identical with those of the general dried fruit trade. There was no carry-over of old stocks; the crop is below the normal; and the selling elements have stood firmly in opposition to consignments. Buyers held off early in the season, but when they learned that the only way to get the goods was to pay for them they came down gracefully. The market is now in healthy tone and there is no reason to doubt, unless there should be some overwhelming political or financial convulsion, that it will continue through the season.

The Jump in Wheat.

From a study of grain tables to be found in *Bradstreet's*, it appears that the primary cause of the advance in the price of wheat is—as RURAL readers have already been told—a falling off in the world's visible supply, just as the decline in price of 1892-3-4 was a consequence of an increase in the visible supply. The following table, giving (in bushels) the figures of total available supply on Oct. 1st for the past eight years, graphically illustrates these facts:

World's Available Supply.

Oct. 1, 1896	116,809,000
Oct. 1, 1895	131,340,000
Oct. 1, 1894	163,206,000
Oct. 1, 1893	161,090,000
Oct. 1, 1892	133,962,000
Oct. 1, 1891	111,414,000
Oct. 1, 1890	81,885,000
Oct. 1, 1889	80,984,000

These figures leave very little to be said. The supply grew abnormal in 1892 and accumulation reached its maximum in 1894. By 1895 it had fallen very considerably, and this year it is still lower. The upward movement in the London market, from which the advance in American markets is a reflection, was coincidental with the knowledge of the 1896 figures. That the rapid upward movement of the past few days is to some extent due to excitement and to the momentum of speculative fever, is doubtless true; but this movement appears, as we write on Wednesday, to have attained its climax, leaving the commercial market on a basis about fifty per cent higher than the prices which have ruled these past two or three years.

Since each cental of wheat in the United States has increased in value by about 50 cents since the middle of September, the aggregate gain of holders has been enormous. In California it is estimated loosely to be between three and six million dollars; and a considerable share of it is widely divided among farmers who were lucky enough to have held on to their crops. But the big individual gains have, of course, been made by large holders who have been buying either for export or in anticipation of an advance. George McNear, the well-known merchant of San Francisco, is understood to have bought before the jump and at prices ruling before middle September—about 75,000 tons. The rise has been about $12 per ton, making a gain of $900,000 for him. Next to McNear comes Eppinger & Co., with about 40,000 tons, or nearly $500,000 profit. Balfour, Guthrie & Co., Girvin & Eyre, Parrott & Co., Meyer, Wilson & Co., Grace & Co., Edgar J. de Pue and many others have made small fortunes on the rise, each in proportion to the quantity he had on hand. Every miller is richer by many thousands of dollars to-day than he was one month or six weeks ago.

An attempt has been made to connect the movement in wheat with current politics. This idea is utterly repudiated by those who have the best authority to speak. Speaking on Tuesday, Mr. G. W. McNear, Jr., said:

The jump in wheat has nothing whatever to do with the political issue. It is altogether the result of shortages in the crops of the great wheat producing countries. There have been bad crops in India, Australia, Russia, Argentina and France. France we have not heard from in full yet, but the probabilities are that she will have to import wheat this year, when she has always been able to supply her own demands. The bad crops in so many countries at once is more or less of a coincidence. They have had bad weather and consequent damage to the crops in Russia, India, France and Australia. Something is due to the farmers having become discouraged over the low prices that have prevailed in the last few years. Many of them have gone into other forms of agriculture. This necessarily has caused somewhat of a shortage. Then the stock has run down low in the importing countries. They have exhausted their supply and are just about making a new demand. It is the relation between supply and demand which has caused this sudden rise in prices. It is hard to tell whether the market will remain in its present condition or not. At present it looks as if prices would remain up.

Mr. J. Eppinger, speaking on Tuesday, said:

The immediate cause of the rise in wheat is the Indian demand. We have loaded several vessels with wheat for India already. There is no cause but that of bad crops. It is ridiculous to say that the sudden inflation has anything to do with the political situation. The sudden Indian demand, climaxing on top of those more general causes, has been the immediate cause of the rise in wheat. In the meantime, we have had a very fair or average crop in the United States. Our supply remaining the same, and the supply in other parts of the world diminishing, while the demand remains more or less constant, prices have gone up. The national issue of silver and gold has nothing whatever to do with the question. Of course if the range of prices for breadstuffs is higher in the ensuing year, as it bids likely to be, the price of land will rise also. Wheat is a little lower to-day, and I have no idea what changes there will be in the coming weeks.

Never before in the history of the wheat business in California has there been an equal advance in so brief a period. The movement has been in progress for about six weeks, but has shown itself strongest in the past month. On Monday, September 21st, December options were quoted at $1.05½. Yesterday they had reached $1.53½. May on the former date was $1.10¼. It stood for a little while on Tuesday at $1.57. It is said that a curious feature of the local market during the past ten days has been the speculation of grain farmers who obtained small prices for their wheat, and who are in many instances trying to recoup themselves by dealing in options.

Collateral Activities.

The wide-reaching advance in produce values which is freely commented upon in other columns of this issue is suggestive of a revival in all lines of implements and supplies required by farmers to realize the benefit of the outlook which now seems so promising. The comparatively small supply of fruit trees in our nurseries consists of the most carefully selected standard varieties and they should all be required for early planting upon the very best fruit land. None but the best land should be planted and it will find its profitable opportunity in the pinching out of trees on poor lands which has been going on during the last two years. The nursery men who have good stock should offer it prominently at once.

During the last three years the purchase of farm tools, implements and running gear has beeu allowed to drop to a minimum. The most strenuous effort has been made to get along with the old plows, harrows, wagons, etc., until they have practically fallen to pieces with wear and neglect. The State never had such a scant outfit of farm tools as it has at present. Renewed confidence and the improved outlook will create a wide demand for new appliances and the warehouses of San Francisco should be speedily emptied to allow the farmers to put in a crop of the cereals which will reach the figures of the best years that have gone by.

The opportunity of the present to place new tools, new wagons, new seeds, new orchard and vineyard supplies of all kinds is better than anything which has offered since 1892. We apprehend also that there will be a call for good working horses and mules beyond anything recently known, for breeding has been neglected and the present available supply is small. In short we shall have in all lines of trade in agricultural outfitting, not only the activity which comes of a renewal of heart and confidence but the added factor of advantage in the fact that available means and instruments now in farmers' hands are at the lowest possible ebb. It is not too much to expect that the new confidence and opportunity in the country will start trade actively forward in everything a farmer needs for active prosecution of his business.

Pith of the Week's News.

THE steamship Arago was wrecked on Coos Bay bar, Oregon, on Tuesday. Twelve lives were lost.

ON Monday evening of this week an earthquake shock was felt at Santa Rosa lasting three seconds. No damage.

ON Saturday last, October 17th, there was a snow storm in Chicago, the earliest in the history of the city. Last year the first snow fell on October 20th.

ON Wednesday of last week, the Masonic Order laid the corner stone at Decoto, Alameda county, for its proposed Widows and Orphans Home. Ten thousand Masons were in attendance.

THE State Board of Prison Directors has renewed its recommendation that "some appropriation be made looking to the enlargement of Folsom Prison with the idea of future consolidation."

AT San Jose on Monday of this week Wm. Leeman, aged 79 and a Miss Brock, aged 20, were married. There is unfortunate lying law which prevents people from making complete fools of themselves.

THE U. S. Minister to Turkey has lodged with the Porte a claim for $40,000 indemnity on behalf of Mrs. Lenz, the mother of Frank Lenz, the Pittsburg bicyclist who was murdered by Kurds while traveling through Asiatic Turkey.

W. BAYARD CUTTING, a New York millionaire, who visited California last winter with Cornelius Vanderbilt and Chauncey Depew, has invested in 2000 acres of land near Chino, paying therefor $130,000. He will devote it to sugar beets.

AT Sacramento on Monday Judge Hinkson sentenced to five years' imprisonment and to a fine of $1000 Anne Elliott, an aged woman convicted of luring young girls into disreputable houses. The Judge declared his regret at not being able to imprison the woman for life.

THERE is a project on foot among the Republicans in Kentucky to cast their votes in the coming special session for Secretary Carlyle and thus secure his election over that of Senator Blackburn. It is understood that the Legislature is soon to be called in extra session.

STATE LIBRARIAN, W. DANA PERKINS, died in Sacramento on Sunday last, aged 67 years. He had long been identified with State politics and was a familiar figure in the State capitol. It is the general opinion that Governor Budd will appoint Peter J. Shields to the place made vacant by Mr. Perkins' death.

PRESIDENT JORDAN of Stanford University has been named prominently as the administrator of the Smithsonian Institute at Washington. He declares, however, that he expects to live and die in California and that he hopes there will be a place for him at Palo Alto as long as his services shall be worth anything to anybody.

BOTH McKinley and Bryan continue to do wonderful feats of oratorical labor. Each day brings to the farmer its several delegations and each day carries the latter to the thousands who crowd about his car to hear him. In one day—Friday last—Mr. Bryan addressed twenty-three audiences. He has been as far west as Dakota and as we write on Wednesday, is in Ohio.

THE wrecking of the steamship Umatilla and the consequent exposure of her cargo has brought to light a practice by which Alaska has been illicitly supplied with whiskey. It appears that large quantities of liquor have been packed in sugar barrels sent from this State to Alaska. The whiskey was in demijohns placed in the center of barrels and entirely surrounded by sugar.

THE annual report of the third assistant Postmaster-General for the past fiscal year shows that the total expenditure for the year was $90,626,296, and receipts $82,494,208, leaving a deficit of $8,125,088, or a reduction of $1,679,956 less than the preceding year. The expenditures do not include the cost of carrying the mails over the subsidized Pacific roads, which amounted to $1,155,858.

AT Petaluma last week the California Women's Christian Temperance Union elected officers as follows: President, Mrs. B. Sturtevant Peet; first vice-president, Mrs. G. Greene; second vice-president, Mrs. S. J. Churchill; recording secretary, Mrs. D. J. Spencer; corresponding secretary, Mrs. H. E. Brown; treasurer, Mrs. E. Hoppin; auditor, Mrs. Blanche A. English; editor *Pacific Ensign*, Mrs. A. Van Pelt.

THE ways of British politics are very difficult of comprehension from the American point of view. For the past two years Lord Rosebery's position at the head of the Liberal party has made him the subject of internal intrigue, of innumerable jealousies and of a constant flood of public criticism. Now that he has resigned the whole tone of sentiment has changed and the demand for his reacceptance of the leadership is almost universal in the Liberal party.

MR. GLADSTONE continues to agitate the Armenian question in a general way and religous and social societies in England continue to pass resolutions demading reform, but, so far as anybody can find out, these efforts have no influence on the course of the British Government. It is clearly not intended to take any steps toward the coercion of Turkey in which the several other nations of Europe shall not join; and this means that for the present Turkey will be left to her own devices and to do as she will with her own provinces.

A ST. PETERSBURG newspaper gives details of the Van massacre, secured from fugitives who have arrived at Elchmiadzin. They declare that no Armenians are left in the Van district. The Kurds, declaring that they were executing the Sultan's will, mercilessly butchered the men, kidnapped the prettiest women and girls, and threw the children into the pits intended for storing corn and buried them alive in order to save ammunition. The victims were arranged in rows and killed, two and three at a single shot. The details of the outrages on the priests and temples and the sacred books and vessels are indescribably revolting.

THE desperate plight in which Spain now finds herself is illustrated by her utter failure to float a new loan in Europe. Although its terms were specially favorable, it was found impossible to obtain hidders and so the effort has been diplomatically "postponed." This leaves the Spanish treasury not only empty but without means of being refilled; and at the same time two costly wars are on hand under conditions which suspend customary sources of revenue and substitute for them heavy budgets of expense. In Cuba and the Phillipines, the insurgents are more than holding their own; and there seems no probability that Spain will be able to do better than she has done during the past few months. Among the expected events of the next few weeks is the recall of the officers in Cuba and the Phillipines and the substitution of others in the hope that changes of administration may be followed by greater vigor and efficiency. It is a part of the gossip of the week that if Spain does not succeed in overcoming Cuba before January 1st, President Cleveland will recommend the formal recognition of her independence by the United States.

FOR the coming fiscal year Secretary Lamont asks for the running expenses of the War Department the sum of $52,875,638. The estimate for the War Office in Washington is $1,464,236, showing, the Secretary says, a reduction in the annual expenses for salaries and contingencies in that office of $621,942 from the estimates of four years ago. The other estimates in detail are as follows: Pay of the army, as fixed by law, $13,522,880; subsistence of the army, $1,659,837; quartermaster's supplies, $2,200,000; incidental expenses of the army, $600,000; barracks and quarters, including hospital construction, $835,000; shooting ranges, $25,000; cavalry and artillery horses, $130,000; army transportation, $2,500,000; clothing, $1,100,000; medical supplies, $140,200; ordnance department, $1,131,000; military academy, $521,812; arsenals, $139,596; military posts, national cemeteries and national parks, $1,558,380; national soldiers' homes, $3,443,214; artificial limbs for soldiers of the late war, $191,000; public buildings and grounds in Washington, $129,992; miscellaneous items, $402,000; rivers and harbors, $5,304,000, to meet payments on existing contracts; the department at this time is unable to say what sum will be required by future contracts for which authority exists. The estimate for fortifications and sea coast defenses has been increased to $15,802,291—an amount, Secretary Lamont says, which will be required to continue this work at its present rate of progress.

THERE has been a good deal of idle talk during the past two weeks to the effect that the United States Government was intending to send a war ship through the sea of Marmora and into Constantinople harbor. These waters have long been closed to war vessels other than those of Turkey by the concurrent action of European powers, and it has been stated that our Government intended to deny the validity of this blockade and send a ship through the sea of Marmora in defiance of all protests. Most of this story originated in the minds of newspaper gossips. So far as we can see, there is no reason why the United States should wish to interfere in regulations covering the sea of Marmora and certainly no reasonable excuse for offending the powers of Europe by an act of senseless and pointless bravado. Nobody believes that the lives or property of American citizens in Constantinople are seriously in danger, and, if they were, the presence of an American ship off Constantinople harbor would be of small practical service. Whatever means it might afford as a place of refuge in case of local tumult would be equally afforded by merchant ships, which lie in the harbor at all times. It is an old rule of American policy to steer wide of international complications and to leave Europe and her quarrels to herself, and we see no reason why this rule should be departed from at the present time. We have no relationships which warrant us to interfere in any way in the matter of Turkey. It is a case in which we will do very wisely to mind our own business.

Gleanings.

ALREADY arrangements are being made for the Cloverdale Citrus Fair, to be held next February. A new pavilion, 56 by 120 feet and to cost $3000, is to be built.

A NEW style of apple box is being used at Santa Cruz by several local shippers. It is about the shape of the Oregon apple box, nearly square, and holds sixty large Bellefleurs.

THE Pomona Horticulturists and Farmers' Club was organized last week, with John Wasson president and J. W. Mills secretary. The object is the education of the members in all that pertains to their interests.

A KNIGHTS VALLEY (Sonoma county) man claims to have found a dead sure thing for the destruction of squirrels. At a test on Saturday last a two-horse wagon load of dead bunnies—estimated at 6000—was cleaned up.

TWENTY cows of the San Mateo dairy herd have been condemned and ordered slaughtered. The owners were at first indignant but when informed that they would not be allowed to sell their milk until they could show a clean bill of health, they complied readily enough.

THE prospects for the coming San Francisco horse show are reported to be excellent and a general improvement in all classes, as compared with previous exhibitions, is looked for. Intending exhibitors should bear in mind that November 14th is the last day for making entries.

IN casting about for ways to make their city more attractive as a resort the people of Santa Cruz have determined to extend and improve the system of drives from the city. It is understood that the work will begin very soon, and that the famous cliff drive will first be the subject of attention.

THERE was exhibited at Santa Cruz last week a box of Bellefleurs containing forty-five apples, each of which weighed over a pound. They were raised by W. A. Sanborn. Santa Cruz also boasts of a pumpkin eight feet in circumference and weighing 215 pounds. It was raised by Charles H. Rogers.

AS AN illustration of the methods by which the milk supply of San Francisco is adulterated, Inspector Dockery reports that certain milkmen are in the habit of filling their cans from watering troughs about the city. It would seem that the milkmen ought at least to be able to supply clean water.

A DISPATCH from Dubuque, Iowa, says that the commercial agent of the Illinois Central Railway Co. has sent in his report as to the ravages of hog cholera along the Central's lines in Iowa. He reports a loss of 40 per cent of hogs from Jessup to Fort Dodge. The disease prevails at Alden, Iowa Falls, Williams, Blairsburg and other points. The loss is fully 50 per cent. Farmers are alarmed and are shipping unfattened hogs to market.

WHEATLAND *Four Corners*: Down Healdsburg way the grape growers have had difficulty in securing labor, as did our hop men. The *Tribune* says that about the first of this month there was such a rush in the vineyards to gather the grapes that threatened to rot that enough laboring people could not be found to supply the demand. Some growers even offered twice what they originally paid, and yet they could scarcely increase their forces.

A CREAMERY to be owned and operated under the co-operative plan is to be established at Sunol. Tributary to it there will be skimming stations at Pleasanton, Irvington and Haywards. The directors are: Sunol, William Day, Jacob Schmidt and C. F. Hadsell; Haywards, H. L. Fedderson and A. S. Jones; Irvington, J. C. Mowey and Robert Blacow; Pleasanton, P. Kolb and P. V. Uwing. The executive committee are Charles Duerr, B. L. Crittenden and William Day.

THE wool output of Oregon and Washington for 1896 was about 15,000,000 pounds, and of this amount nearly 12,000,000 pounds have been sold. Of the remainder about one-half is in the hands of men who are financially able to carry it over another season, if necessary, in order to secure a better price. The other half is mostly controlled by interior merchants, who have made enough advances on it to practically own it, unless a sharp advance comes to the relief of the grower before it is too late.

SANTA ROSA *Democrat*: The canners of Sonoma county are getting their pack to market as rapidly as possible. At the Russian River Packing House in this city twenty hands are steadily employed labelling and boxing the canned goods. About the same number are at work in the Healdsburg Canning Company's plant. A conservative estimate for Sonoma county this year is 120,000 cases. Of this, 70,000 cases were put up in Healdsburg, where the two largest canneries in the county are operated as heavily as the light fruit crop would permit.

OREGON letter: The very novel sight of threshing by moonlight could have been seen on the farm of Mr. Soliss on Griffin creek, in Josephine county, a week ago. The threshers were at work that day, and when the shades of night began falling found they still had about four hours' work to do to finish the job—so obtained permission to finish by moonlight. After supper they again repaired to the field, when, after working steadily they completed their work at 18 minutes before 12 o'clock, thus preventing breaking Sunday.

AT Rialto some weeks ago a horse belonging to a man named Fowler was terribly wounded by an encounter with a barbed wire fence. Instead of mercifully killing the animal Fowler endeavored to heal the wounds by a method of faith cure, with the aid of some so-called "scientists" in the neighborhood, and the poor beast was thus kept for nearly two months in a condition of terrible suffering. The local humane society finally got hold of the matter, had the animal shot and will prosecute Fowler for cruelty.

PORTLAND *Oregonian*: "The Canada thistle, whith made its appeapance in Ladd's field last summer has been cut regularly every week, and is there yet, vigorous and healthy, and apparently not in the least discouraged. Abuse only renders the weed more determined to hold its ground, and every attempt to evict it is regarded as a challenge to more sturdy and prolific growth. The roots are sunk to a depth which defies extraction, and next spring, when freshened by the winter's rains, they will come forth with a renewed determination, and unless some one is on hand to cut them off as fast as they appear, the thistle will soon be spread over the whole tract, and threaten the lawns and gardens of neighboring residents."

A DAVISVILLE correspondent of the Woodland *Democrat* thus writes: "It doesn't pay to raise girls, not as a speculation, any more," said an old Davisvillian the other day. "My daugher," he continued, "goes out to assist in almond hulling at one cent per pound, and let me say that it is as much as the grower can afford, since prices and almonds are alike reduced under the gold standard. Well, she earns from 60 cents to $1 per day, which at first glance looks well, but lately I've been figuring up the cost. There's a horse and buggy at $1 a day, keeping of horse 25 cents; cough drops for girl who has contracted a violent cold from exposure, to this date, 10 cents a day; tempting delicacies, aside from our usual fare, to keep up girl's strength and courage, 25 cents a day; liniment for strained wrists, 50 cents; one cheap dress, round, $1.50; one pair shoes, $2.50. I'll say nothing about her disturbing our rest at 4 o'clock in the morning. She has worked five days and earned $3.65. Total expenses to date, $12.50; net loss, $8.85. You see the girl industry doesn't pay."

DURING the next five years the Burrell farms, in the vicinity of Garfield, in Eastern Washington, are to be transformed into apple orchards. It will be apples, apples, apples, acres upon acres of nothing but apple trees, says the *Enterprise*. F. M. Crofoot, who has had charge of Colonel E. H. Morrison's orchard of 12,000 trees, has been employed by Messrs. Burrell to superintend the planting and cultivation of these orchards. Mr. Crofoot will at once make preparations for beginning the work of planting on the Burrell ranch No. 6, a mile and a half north of Garfield. The plan is to plant 5000 trees each year for five years. The season already being so late the full 5000 quota will probably not be reached, but there will be fifty-six acres of No. 6 planted. Next season the rest of it will be planted, making a full quarter section of orchard. Next in order will come Burrell lands lying a mile or so farther north, near Eden. There will be a total of 25,000 trees planted, all of which will be winter apples. In reply to an inquiry as to what varieties of apples would be grown, Mr. Crofoot said the kinds that would probably be most largely planted would be the greenings, yellow Newton pippins, Rom beauties, Spitzenberg and Baldwin.

Russia's Wheat Crop.

The official organ of trade and industry, says a St. Petersburg dispatch to the London *Times*, gives the following account of the crops down to the middle of August: The wheat from autumn-sown seed has now for the most part been gathered in, and there can be no longer any doubt as the poor quality of the harvest. The best results were obtained over the extensive area stretching from the Baltic to the Caspian through Pskoff, Smolensk, Novgorod, and the basin of the Volga. The crops are comparatively good in the northwestern district along the basin of the Dnieper, but they gradually deteriorate toward the south, until the harvest is almost a complete failure in the lower region of that river.

The bad harvest of autumn-sown wheat extends over the Steppe region from the northern coast of the Sea of Azof upward through the valley of the Don, and only gives place to more satisfactory results in the southern part of the central black soil zone. In the Crimea the harvest of autumn-sown wheat is middling, as also in the Caucasus, with the exception of the northern part of the latter, from which there have been a great many complaints. This year's ingathering of autumn-sown wheat has been one of the latest, owing to the rain.

The crops of spring-sown wheat are above the average in extent, but the grain is of inferior quality. The best are in the basin of the Volga and over the area stretching from the upper parts of that region westward to the Baltic sea. The eastern provinces and the country bordering on the lower course of the Volga have produced fairly good results. As regards the Dnieper basin, the spring-sown crops are moderately good only in the northern part, while toward the south they become worse and worse, and are quite bad in the province of Kherson.

The unsatisfactory harvest of spring-sown wheat extends over nearly the whole area afflicted by the failure of the crops of autumn-sown corn, a slight exception being observed only in the north of the province of Taurida, along the coast of the Sea of Azof. In the basin of the Don and the greater part of the black soil region the yield from spring sowing is below the average. In the Crimea it is only middling, in the Caucasus very unequal, and in general less satisfactory than the yield from autumn-sown wheat.

This confirms previous reports of famine in the southern province, which are also corroborated by the fact that the local authorities of Kershon have resolved to ask the central government for a grant of a large sum of money for the purpose of victualing the population.

HORTICULTURE.

Forthcoming Report of the State Board of Horticulture.

The report of the State Board of Horticulture for the two years ending October 1st has been filed with the Governor and, we presume, is now on its way through the State Printing Office. The period has been eventful for the State Board, as it was left without an appropriation, except so far as the payment of its officials went. They have apparently exercised due diligence and have well earned their compensations. The shortage of funds compelled a change of offices in this city, and the rent, etc., of the new quarters, amounting to an estimated sum of $3720, was donated by D. O. Mills, until by the vote of the Board the offices were moved to the State Capitol at Sacramento.

The Board.—The Board of Horticulture as now constituted has the following personnel: Ellwood Cooper of Santa Barbara, president; Mark L. McDonald of Santa Rosa, vice-president; Fred C. Miles of Penryn, treasurer; Russ D. Stephens and Sol Runyon of Sacramento, Frank A. Kimball of National City, A. Block of Santa Clara and Frank A. Buck of Vacaville. B. M. Lelong is secretary and chief horticultural officer, Alexander Craw quarantine officer and entomologist and Ella F. Hallahan clerk.

The Report.—The report now being printed opens with an interesting recital of the California anti-pest legislation and the decisions pertaining thereto. The address of President Cooper is a very interesting one and replete with information regarding the work of the Board. It refers to the failure of the Board to secure the signature of the Governor to the appropriation for the maintenance of the Board, and calls attention to the fact that its work cannot stop without causing the devastation of the fruit interests of the State by insect pests and the necessity of carrying it on by some means that must be decided on.

Insect Information.—In addition to descriptive features and notes on the insect pests and plant diseases which are still liable to be introduced to this State, the report gives account of the many evils which have been held up by the vigilance of Quarantine Officer Alexander Craw at the port of San Francisco. They are a frightful array that we have happily escaped so far. Mr. Craw's narrative shows that since April 16th seventy-two vessels have arrived in the port of San Francisco having on board trees or plants. With the exception of *araucarias* from Australia, very little nursery stock was received. On the steamship Alameda, that arrived from Australia in July, two of the crew had six palms obtained at Samoa, infested with *chionaspis citri*, and one with *aspidiotus rossii*, the latter resembling the red scale of Florida, but larger and darker. The palms were destroyed. Three orange trees from Japan, infested with three species of destructive coccids, were destroyed in July, as were also a number of papaw plants, which were found to be infested with a new species of scale. Plants received from Peru, Japan, Mexico, China, India, Australia, New Zealand, Samoa, Tahiti, Washington Island, Marquesas, Sandwich Islands, Central America and British Columbia, found infested with scale, were also destroyed, and, through the courtesy of the Southern Pacific railway officials, the department has been notified of the arrival of plants and shrubs from other States.

County Boards.—Reports are presented from the County Boards of Horticultural Commissioners of Fresno, Los Angeles, Merced, Orange, Placer, Riverside, Sacramento, San Bernardino, San Diego, San Joaquin, San Mateo, Santa Barbara, Santa Clara, Stanislaus, Tehama, Ventura and Yuba counties, which contain much interesting information and much food for reflection.

Fruit Marketing.—Mr. Lelong gives a very interesting historical account of the efforts made at fruit marketing at the East by co-operative action of growers and shippers on the lines devised by Col. Weinstock of Sacramento. The facts in this connection are already known to the readers of the RURAL. The following figures of fresh fruit shipped East in 1895 and 1896 were taken from the report of the President of the California Fruit Growers' and Shippers' Association:

	1895.	1896.
Cars shipped to June 30	543	449
Cars shipped to July 30	1,690	1,405
Cars shipped to Aug. 31	2,989	2,602
Cars shipped to Sept. 11	3,408	3,050

It will be noticed that up to September 10th the shipments for 1896 were a little over 10 per cent less than in 1895, but the report states that the present indications tend to show that the increased shipments over last year, beginning with September 1st, may overcome the decline in the season's shipments prior to that date, provided there are no rains during October and the grape crop can be harvested.

The shipping season has not been entirely satisfactory, and while the California Fruit Growers' and Shippers' Association were successful in bringing about a spirit of harmony and unity of action between growers and shippers and in the establishment of consolidated salesrooms in Eastern cities, other conditions have been such as to seriously depress prices on certain lines of fruit. Plums, prunes and peaches have brought fairly satisfactory prices; but Bartlett pears, owing to an abnormal California crop of under-sized fruit, have done poorly—have brought the growers little or no return, and have more or less depressed prices in the Eastern markets on other California fruits. Hard times in the East also tended to depress prices.

Citrus Fruit Exchanges.—The successful methods of marketing citrus fruits in the southern part of the State are, the report contends, entirely due to co-operative associations or exchanges, and a review of the organizations is given from the pen of Col. T. H. B. Chamblin, who was a prime mover in the matter.

Walnut Culture.—Mr. Lelong has made the walnut one of the main lines of his inquiry in this report and has produced a very valuable review of the subject. Seventy-seven pages of the report are given over to the walnut, the enemies which attack the tree, and proper method of eradicating them. A number of papers from some of the foremost growers in the State, treating the walnut from every point of view, are inserted.

Pruning the Prune.—The report very properly gives place to the admirable assay on "Pruning the Prune," by S. P. Sanders of San Jose, which was published in the RURAL last December. It is worth the widest possible circulation.

Valuable and Creditable.—The report when issued will, we believe, be counted very creditable to Mr. Lelong and to all who have assisted him in the work, and will be the means of distributing much pertinent information among the fruit growers of the State.

Prune Handling at Pomona.

Pomona, Los Angeles county, has quite a large prune area and an account of local practice will interest prune growers everywhere. Such an account is prepared by W. H. Schureman, who last winter furnished the RURAL PRESS with a very interesting description of his results with fertilizers for prunes.

Planting the Prune Trees.—Do not set trees closer than 22 feet; you will be more qualified to appreciate this advice when your orchard is in full bearing at 8 or 10 years, when the limbs will, even at the distance, be attempting to clasp each other in a glad welcome; not unlike a recent convert to free silver would be in that party.

If your trees are set the above distance apart, they will bear enough more fruit, and will get enough larger, and you will be able to cultivate and plow enough more of the whole ground to well repay for the difference in trees, which is only about eighteen per acre less than when set 20 feet apart.

It is customary in this locality to set trees that are budded on peach roots. Be sure that your trees, when obtained from the nursery, are absolutely free from root knot; if you are not capable of properly inspecting them yourself, by all means get a competent person to do it for you, as your trees will not be worth the fallen leaves under them when they are six or seven years old, if they have root knot to contend with from the first. I have never seen a satisfactory cure for this disease.

Pruning.—I believe in a low-crowned tree. When your tree is one year old, head it back by cutting off at least two-thirds of the new growth. Do this each succeeding year until it is three years old. Then keep center sufficiently thinned out in order to admit light, thus encouraging the growth of small laterals in the center and around the crown or body of the tree. Be sure and not allow the top to run to cane. I have in my mind two orchards in particular that have never been headed back in the above manner. They are now five years old, and the trunks of the trees are little spindling things, and the limbs are long enough for fishing poles, with scarcely a lateral on them of any consequence, and I will venture to say that the owners of these grooves will have "the error of their ways" very forcibly impressed upon them when the trees produce their first heavy crop (if they ever do.) For they will probably split wide open, as the top of the tree is out of all proportion to the body.

When you rear a tree, as I have advocated, to the time it commences to bear, it should not thereafter require very heavy pruning, but keep your tree well balanced, and if you find a limb that is so energetic and too proud to associate with its companions, either cut it out entirely, or cut it back and compel it to do duty with the others; but in so cutting be careful and "cut to a limb." This is one rule you must never forget in trimming a prune tree; do not bob it off square and produce a horn, but make a neat cut to the nearest lateral where desired. This is, in fact, a pretty safe rule in pruning any kind of a fruit tree. Remove the cross-limbs and others that may be a positive injury, but do not remove any of the small limbs and twigs from the body of the tree, with the idea that it looks pretty, or so you can cultivate closer, and thus save your clothes (and yourself) from being whipped up a little, or that your horse might take more kindly to the task of his portion of the work, for on those very limbs grow the finest fruit and the most of it. Good big, first-class prunes seldom grow on the ends of the main limbs.

I should not commence to prune until the leaves are practically all off the tress in the fall, for two reasons: First, the tree will then be virtually dormant; second, you will be better able to observe just what limbs should be dispensed with.

Spring Work.—Now let us go along to springtime. Assuming that we have an orchard old enough to bear a good crop; if it blooms out full and white as a snowball bush, and does so within a short period, you can be reasonably assured of a good crop, if the spring weather continues favorable and does not turn cold, cloudy and generally disagreeable.

You may also be just as reasonably assured of a short crop if the blossoms come straggling along and put forth as if ashamed of themselves, for whenever they make such a display, it bodes no good for the grower.

Before I touched upon springtime, I should have advised the plowing of your orchard once after the heavy rain and again after what would presumably be the last good rain in the spring; plow and plow deep. I plow ten inches at least and often twelve, to within two or three feet of the trees, and there as deep as possible without injury to large roots. I seldom cultivate in the winter time; allow the weeds to grow and plow them under; it will add a little humus, which is very deficient in all our soils here.

Irrigation.—Do not irrigate before the fruit sets well; our cold canyon and artesian water chills the ground and tree too much, while it is at this time trying to warm up after the long and cool winter nights.

The water at this time seems to check the sap and the young fruit drops—and so does your lip. After fruit is well set, or in other words, subsequent to stoning period, you may irrigate as thoroughly as your quantity of water will permit, at least once per month. You can grow prunes in many localities without irrigation. But I can grow prunes one-fourth to one-third larger in any locality if I have plenty of water, coupled with a proper application of fertilizers.

Give your trees at least one good thorough irrigation as soon after the crop is harvested as possible. It seems to stimulate the whole tree, and it especially conductive to the welfare of the fruit buds for ensuing year.

Picking.—Prunes usually ripen about August 20, and the picking season continues for at least one month. Never gather prunes until they are thoroughly ripe, which can be easily determined in two ways. First, bite into one, and if it pops like—it is too green and not ripe enough for drying purposes. Second, shake the tree a little, and the ripe fruit will readily fall without the stems attached thereto, while the green prunes will require a more vigorous shake of the tree or limbs to cause any fruit to fall, and those that do come down will invariably have stems on. In gathering a crop you will very seldom find a rotten or decayed prune; not so with any other fruit I now happen to think of. Those that fall a few days before the pickers make their appearance, will commence drying—they evidently have more appreciation for hard times than apricots, peaches, etc.

I usually go over the orchard four or five times, at intervals of one week. The first time I never shake down a prune, merely picking up those that have already fallen. The remaining pickings, we give the tree a light shake. The last time, it will be necessary to take a light pole, and knock off a few that will not shake down; for it would never pay to make another trip over the whole orchard for those few; but in doing this, you must exercise great care and not knock off more fruit spurs than the fruit amounts to.

Dipping.—As most of you know, prunes are treated in a different manner from any other fruit before being spread to dry, for instead of sulphuring as we do peaches, pears, apples, etc., they are dipped in a strong solution of boiling hot lye water, and then immediately rinsed in a vessel of clear, cold water. For convenience of dipping, we use large wire baskets holding two boxes of fruit. Before dipping, however, they should always be run through a grader which cleans them of sticks, leaves and trash, that may have accumulated in the orchard, and it also makes four grades of green prunes, which very much facilitates the drying, and allows the whole lot to dry more evenly than it otherwise would. In favorable weather it requires seven to ten days for drying.

The dipping in lye water referred to above is done for the purpose of cutting the skin, which cracks open and makes a much tenderer and more palatable fruit when dried. It also expedites the drying. Don't think for a moment that the lye has any bad effect on a person's system who consumes the fruit, for it does not. As I previously said, the prunes are immediately rinsed in clear water after

the lye dip, and are probably thoroughly washed two or three times by the good housewife before being cooked. They are one of the most nourishing fruits there is, and a very good diet for a weak stomach. Seven years ago this winter, in southern Arizona, (where tempting edibles are not produced) I managed to keep a man alive on practically prune juice alone, or rather the water in which they were stewed. This party had a very weak stomach and could not retain anything else on it. He finally got well and strong.

Sweating and Grading.—When the fruit is dried, it is then put in large bins to go through what is called "the sweat." Do not attempt to sweat properly cured prunes in boxes, or you will lose enough money by further shrinkage to soon pay for the cost of drying your whole crop. The fruit then having gone through the sweat, and if you now have it sold according to sizes (as is customary,) it will be necessary to run it over a dried-fruit grader and make at least seven sizes of it.

These sizes are according to the number of prunes required to constitute a pound, and they run from 40's to 50's, up to 100's and over in the increased ratio of 10 for each size.

Prunes are usually sold on the basis of the "four sizes," which are included as follows: 60's to 70's; 70's to 80's; 80's to 90's, and 90's to 100's to the pound.

The four sizes at 4 cents per pound would mean equal quantities of each of the above sizes, say three tons of each, would make a carload of twelve tons, 24,000 pounds or $960. On the basis of 4 cents for the four sizes, 40's to 50's would be worth 5¾ cents; 50's to 60's, 5¼ cents; while those over 100's would only be worth 2¾ cents.

In regard to fertilization of prune orchards, I will touch principally upon the importance of it rather than upon what to use, and if you will permit me, I will read a portion of an article which I wrote for publication in the PACIFIC RURAL PRESS last winter.

[The article in which Mr. Schureman closed his essay was published in the RURAL of February 22, 1896.—ED.]

Squirrels and Morning Glory.

TO THE EDITOR:—I tried Mr. J. F. Flory's prescription of "newspaper plugs for squirrel holes," and find that we have in Tulare county a more energetic, enterprising squirrel than they have in Kings, for he digs out every time—all the time—and it's nothing new; it's the nature of the rodent, as I note all family dens have one or more holes dug from inside out.

Morning Glory.—With interest I read all that has been said in the RURAL PRESS about wild morning glory, as I have been trying to kill a little patch. For three years I plowed, cultivated and with hoe and spade dug for its life blood, and it only thrived the better. Then I covered it with half-rotted straw 4 feet deep. The first year some came up through the straw and some outside. That winter I put on more straw, extending it, 4 feet deep, outside of the old. The second year a few sickly sprouts appeared and were promptly covered. This—the third—year not a sprout has appeared. I think the straw remedy good for a beginner, but not practicable where one is in the morning glory business by the acre.

Orosi. HORACE WHITAKER.

[Our correspondent would have done just as well if he had smothered the life out of the roots with the horizontal knife weed cutter, using it constantly, often enough so that not a sprout reached the light to show green color. His plowing and digging and ordinary cultivating simply spread and encouraged the plant, as he said. It will not do to allow it to show green on the surface, and then work it in such a way that root pieces are distributed. It must be sharply cut below the surface without dislodging the old roots. If that is done they can be just as effectively smothered as though covered with stacks of rotten straw. And this can be done by the acre, if you can afford man and team to do it. Many people in all parts of the State have succeeded in this way.—ED.]

FLORIST AND GARDENER.

Guarding Against Frost.

Florida is awake on the subject of frost protection and does not propose to lose her early vegetables this year if available means will save them. The local weather burcau is actively co-operating with the growers and has issued a suggestive circular on the subject. We may as well take a few hints from the Florida lesson and have the facts in mind in case indications of untimely frosts should suddenly appear. We take the following from a Florida exchange:

Frosty Conditions.—Let us remember that frost is deposited when vapor of the surrounding air is condensed upon plants, and this is only possible when radiation has gone on sufficiently for the temperature of the plant to be below freezing. As a rule vegetation is a good radiator, giving off heat quickly, thereby reducing the temperature of the very object sought to be protected, and it is frequent that vegetation may be covered with hoar frost when the temperature of the air at higher elevation indicates otherwise. This higher temperature is caused by heat radiated from objects near the earth. The conditions favorable for frost formation are cloudless skies, sufficiently low temperature and just enough wind to cause a slight movement of the air. With a temperature of 50° at seven o'clock in the evening, and a southwest to north wind—light—it is more than probable that frost will be severe enough to cause damage. It is a fact that, as a rule, the second night of a cold wave is more damaging than the first. This is true in a majority of cases. The apparent explanation is that nearly all cold weather in Florida is preceded by rains the night or day preceding the first cold morning, and, though the temperature may be decidedly low, the moisture in the air retards radiation—acts as an invisible cover throwing the heat back to the plant.

Checking Radiation.—The idea is to stop radiation. This is partly accomplished by anything that will produce a smoke, fog or even vapor. Lands overflowed with water, or thoroughly saturated, will withstand cold conditions by which vegetation is killed on drier soil. The vapor in the air retards radiation. The resort to smudges is well known, and is in general use in protecting groves. If a choice in land can be made, it is always best to plant to the east of bodies of water. Water is a great protection and may mean the salvation of a patch of beans or other prized products.

Air Drainage.—Among the recent additional auxiliaries toward frost prevention is the system of air drainage, and it possesses some good points. The thoughtless frequently have obstructions to the east and south of a field. It is evident that this is an error. The idea is to have these sides free in order that the cold air from the north and west may find a ready outlet; put nothing in the way of this enemy to your growing fields, but on the contrary accelerate its movement by opening wide the gates to the leeward, thereby creating a suction through which the cold air will pass off.

Select Higher Lands.—Where discretion can be exercised the selection of fields to be planted should receive more consideration than is usually given the subject. It is always preferable to select elevated or level lands to low lands. The air near the earth sustains the superincumbent portion above, hence its increase of density. The cold, heavy air settles in low places, chilling severely if not damaging vegetation, and when the temperature is low enough the "frost streak" is much in evidence. This is particularly the case should a field be located between two hills, the cold air flowing down the hill or mountain side, enveloping and condensing upon the tender plants.

Other Protections.—The most potent and available sources of protection in Florida are straw, hay, palmetto and probably some kind of cheap canvas, such as is in use in the Gainesville section. During the severe winter of 1894-5 the cabbage growers saved their young plants by covering with dirt; in fact, the plants were covered with the plow, to be uncovered as soon as the cold wave had passed.

Admitting that protection measures will be necessary this winter, now is the time to make them. Have the material convenient, so even on short notice no time will be lost.

CEREAL CROPS.

English Views on the Wheat Situation.

In addition to what was given in last week's RURAL as to the improved outlook for wheat it may be remarked that the English papers are full of indications that the general belief is that wheat is on the up-grade for good.

Sir J. B. Lawes who is not only a prominent scientific experimentalist, and has been for nearly half a century, but is a respected authority on grain situations, puts the English wheat crop of 1896 at 33½ bushels per acre, and the acreage weight at 63⅛ pounds per bushel. The forty-four years' average is 27¾ bushels per acre, with an average weight of 59½ pounds per bushel. According to Sir John Lawes, therefore, 1896 has been one of the best wheat years on record, but that does not stand in the way of advanced prices.

The English Supply and Demand.—Dr. Lawes holds that: "Taking the average population of the United Kingdom over the harvest year ending August 31st, 1897, as rather over 39,500,000, at six bushels per head, our requirement to feed them would amount to 30,000,000 quarters of wheat. Of this we may say our home produce will supply rather more than 7,000,000, leaving nearly 23,000,000 to be supplied by imports. Last year we imported 22,333,000 quarters of wheat, and wheat flour as wheat, and it is said that we reduced the stocks of foreign wheat in warehouse to the amount of 2,000,000 quarters. Owing to the very high quality of our crop of this year, it is quite probable that a much larger portion than usual will be sold as bread corn.

"In 1894-5 we imported over 3,000,000 quarters of wheat beyond our requirements, the consequence of which was a considerable fall in price and a large accumulation of stocks in the warehouses. Most of this has now been used up, and should the imports in future not exceed our requirements, we may expect that price will improve. So long as Great Britain is the only market for surplus wheat of the world, we must expect that prices will go down until it does not pay a nation to grow wheat for export, and it would almost appear that this point had already been approached in some countries, if we may judge from the decline in their exports."

British Millers Want Protection.

At the recent convention of the National Association of British and Irish Millers, held at Southampton, the following resolution was adopted:

That the association is of the opinion that it is the duty of the Imperial Government to foster and encourage the production of wheat within the limits of the United Kingdom, believing that it will tend to the welfare of the nation; its protection, as providing food supply in the event of war; and its prosperity, as affording employment to the working population.

Among the many advantages to be derived from the resuscitation of wheat cultivation may be mentioned the following: First, the provision of grain at convenient centers for the working of the country mills, thereby increasing the amount of offal available for British stock; second, the provision of sweet and pure wheat for the bread of the people now largely dependent on foreign corn; third, the retention within the country of a store of wheat which would be in readiness in the event of an outbreak of war, and thus rendering unnecessary the proposal for costly construction and maintenance of national storehouses; fourth, the increased growth of wheat would provide employment for farm laborers, millers and stock farmers, and thus tend to stop the migration of the country population into the already overcrowded cities and restore the land now wholly or partially out of cultivation to the use designed by Providence, viz., to bring forth food for the people.

[This is rather interesting reading from a protectionist point of view. It shows that the theories of the English doctrinaires do not well suit the needs of the people—and it is much the same the world over.—ED.]

TRACK AND FARM.

What a Farmer Thinks About Selling Horses.

A Michigan farmer believes a common horse producer should be up to date in his method of horse selling. He tells the *Rural New Yorker* that he endeavors to have his horses a source of revenue, as much as his hogs or cattle, and he thinks that the breeders have brought much of this depression upon themselves, as the farmers have bred every mare that would breed, regardless of conformation or defects, to an entire horse with a pedigree, anticipating a Maud S, Sunol or Fantasy. It is not my intention to depreciate breeding, for I am a firm believer in any well-bred animal, providing he has a stylish conformation, and reproduces it. It has always been my observation that style will outsell speed, generally speaking, and style combined with strong conformation will draw a plow or wheat to market, while speed is usually in the box stall (many times for repairs). In other words, a farmer should breed something he can work and drive light besides.

Hints for Selling.—When the season comes for fitting the horse for market, put a $2 stable blanket on him, trim up his ears, cut his whiskers, wash out his tail occasionally, and make him presentable, or, more appropriately, marketable. You do not have to tell the horse buyer, "He never had a blanket on him," or "He was running to the straw stack yesterday," or "He will make a beautiful horse when in shape." But put him in shape, have him led out as if alive, and look at the shingles rather than the foundation of the barn. Hitch him up and show him for action and style, and drive him no faster than he can go, and show a clean, smooth gait. "Three minute" horses are very common in the country, if information is reliable; but that is too fast for an ordinary carriage horse to show well, unless one knows that he can go that fast and go smooth. First impressions go a great way in the mind of the prospective buyer, so have him look well at the halter.

The Kind of Horses That Are Wanted.—I usually, during the winter, shape up a few horses for market, work them on the farm during the summer, and have them well broken to show if necessary. A pair of this kind I sold last spring. They took the first prize in the Victoria class in the Chicago Horse Show in June. One was a grade Percheron, the

other by a son of Lakeland Abdallah. They were sold for a fancy price, and have size and style. The horse question to the farmer at present is to get either a stylish coacher or extra heavy draught horse. Village Farm, Palo Alto, Woodburn, etc., will furnish the speed. We must begin breeding; the supply is short, and always will be, for a high-class carriage horse, and the farmers can afford to raise that kind, but trotters are not farmers' horses. Be as choice of the selection of the mare as of the stallion. Have the individual horse in mind first and the pedigree last. Breed to a stallion that reproduces himself, and have a mare that "always raises a good colt."

A Lecture on Balky Horses.

It is time for such a lecture. The whole horse business has balked so furiously during the last three years that we have forgotten the single balkers in harness. Let us hear a farmer's views on balking and its cure.

Training.—A colt that is accustomed to kind treatment and proper care seldom gives much trouble in training. A colt or horse that is nervous and high-strung requires careful handling. The more grit and spirit they have the more valuable they will be when properly trained. Cruelty and brute force should never be used. A horse can be whipped and forced past an object of which he is afraid, but it should not be done. It is far more sensible and humane to take him by the bridle and lead him past, speaking kindly to him in the meantime. He will understand it, never fear. Kindness is not wasted on a horse. Give him to understand that you are his friend.

The less the whip is used the better. It should be feared rather than felt. I have a high-bred Morgan horse that I have driven two and one-half years, and in that time he has not been touched with a whip. He needs no urging, and to use it for any other purpose would be worse than useless. Last spring my hired man purchased a three-year-old mare. She was used to the street cars, but had been poorly kept and was quite thin. After being on the farm a month or two, and well fed and rested, she shied at the cars when driven near them. The more he whipped her for it the worse she became, until it became positively dangerous to go near them. Then he adopted the opposite course of speaking kindly to her and coaxing her. Since then he has had no further trouble. She has been more afraid of being whipped than of the cars.

I believe we haul as heavy loads as any one, or at least as heavy as any one ought to, and we have not had a wagon whip on the farm for five years. Neither have we any balky horses. Overloading and pulling too long without a rest are apt to cause balking. A horse that is never stalled is not liable to become balky; or, even if stalled, will not be spoiled unless abused. Balking may be hereditary to a certain degree, but proper care and training will often overcome it.

Causes of Balking.—Ill-fitting collars or sore shoulders sometimes cause it. Careless, incompetent and brutal drivers are responsible for more balky horses than all other causes combined. A man of ungovernable temper is incompetent and generally unsuccessful in managing a team. I have frequently seen instances where the team exhibited more intelligence and common sense than the driver. If people could only be induced to apply the golden rule a little oftener and the whip a little less in managing their horses, there would be fewer balky ones. Horses are not stubborn or ill-natured, as a rule, but under continued ill-treatment are apt to become so. I know it is necessary to have a horse know that you are his master, but it is not necessary to beat him every few days, as some men seem to think, and, I am sorry to say, practice.

How to Treat a Balky Horse.—The most humane and effective way of controlling a balky horse is to tie a ring in one end of a strong rope. Loop it around the horse just back of the forelegs, take the end forward between the legs, up through the halter under his jaw; fasten to the whiffletree of the horse ahead of him. With this appliance it is best to hitch him in a four-horse team, or he may be hitched to the rear of another wagon with a steady team in it. If he is inclined to be ugly he may rear and plunge, but he will soon find that balking does not pay. If he refuses to start the forward horse pulls directly on the rope. It takes him by surprise, and one lesson is usually sufficient. This method is far preferable to hitching to the horse's jaw. That might dislocate or break the horse's jaw.

It is natural for a horse to pull back when he gets his head fast anywhere. In nine cases out of ten he will pull until something breaks. My method cannot injure him, and causes pain for a few minutes only. The same management will effectually cure a horse of halter pulling. Hitch him to a strong post and give him a tap on the head with a whip. He cannot be induced to pull back more than about twice.—Exchange.

THE DAIRY.

New England Tuberculin Methods Not Approved.

The New England dairymen have heard of Dr. Bang of Denmark and his conservative views on tuberculous cows, which we have already outlined in the RURAL. Judging from a letter which J. W. Newton writes for the *Rural New Yorker*, the Yankee dairymen think Denmark is a pretty good sort of a country for veterinary science.

The New England Method.—The way it is dealt with here in New England is to test cattle with tuberculin, and, if they react, kill them. So far as I have been able to discover, the idea that any other course was to be pursued has been utterly scouted by most of the veterinarians, especially those connected with experiment stations. They were going to eradicate the disease, and if the farmer got a part of what his cattle were worth when killed, he might think himself well off.

A Michigan Improvement.—The veterinarian of the Michigan experiment station is the first to announce an attempt to cure tuberculosis. Prof. Grange deserves the thanks of American cattle growers for his new departure. Heretofore, all cattle in station herds which reacted have been at once killed. Farmers have been asking why an attempt has not been made to cure these animals. In the town in which I live about 100 cattle have been killed by the cattle commissioners. While there were some terribly bad cases, the larger part of these animals were only slightly diseased. Some of the finest Jersey stock in the country was represented in two of these herds. One farmer lost every animal he had, and he was a poor man, too. The owners got a few dollars, but what is $15 or $20 for cows which cannot be replaced for $50, $75 or $100? There has not been such excitement here since the civil war, or since the smallpox swept through the place nearly forty years ago, there being eighty cases. You can imagine how farmers would feel who had spent years in building up fine herds, to have them condemned and killed.

Relief in the Danish Proposition.—Is there not a better way? Thousands of farmers have all along believed that there is. When they have seen fine animals killed, seen the veterinarians hunt until, at last, a small point about the size of a pin head was found which was declared to be tuberculosis, they have asked, with good reason, whether killing such animals was necessary. They have felt that, with proper sanitary surroundings, these animals might have entirely recovered. The farmers have received help from an unexpected quarter. The Massachusetts State Board of Agriculture and the Hatch Experiment station have jointly issued a translation of a paper by Dr. Bang, who is at the head of veterinary work in Denmark. I believe that this is, by far, the most valuable paper or bulletin on tuberculosis which has ever been issued in this country, and I hope that the United States Department of Agriculture will reprint the bulletin, so that it can have the wide circulation which it deserves.

Danish Method.—The Danish method of dealing with the disease is very different from the American way. The statements made by Dr. Bang are quite in accord with the conclusions reached by dairymen here, and the wonder is that our veterinarians have not tried the same experiments which have succeeded so favorably in Denmark. For example, a herd of 208 were tested and 131 reacted. In this country these animals would all have been killed and the farm would have been left with only 77 cattle. Moreover, here all the infected cattle would have been burned, no matter if it took a microscope to detect the disease. Instead of this wholesale destruction, the Danish herd was divided into two parts, and the reacting animals were kept in a separate pasture and in a stable which was divided by a board partition, one side of which was covered with building paper. Precautions were taken to prevent infection from being communicated to the healthy herd, and the infected animals were tested yearly. Any which did not react, were transferred from the sick to the well division. In this way, starting with 131 reacting animals, at the end of the first year there were only 90 which reacted, at the end of the second year 81, at the end of the third year 69. This is as far as the record goes. Besides this, the female calves were all kept, those in the reacting division being separated from their mothers at once. Whenever a diseased animal showed visible signs of tuberculosis it was killed.

Why Not Adopt It?—Now I ask whether this is not a much more rational plan than the immediate slaughter method? I have never observed the use of the term "latent tuberculosis" by writers in this country, but Dr. Bang makes use of it. He says: "The majority of reacting cows have simply reacting tuberculosis. In time, this may develop further in many cases. But my investigations have shown that such tuberculosis can often remain without development for years, and exert no influence on the general health or functions of the animal. We cannot conclude from this observation that an animal which reacts with tuberculin is, thereby, condemned to advancing disease, to wasting away and final death. The reaction simply indicates the possibility of such a result. Whether or not it will prove a reality, we do not know." This will be good news to thousands of farmers.

THE APIARY.

Starting in With Bees in California.

It may be entertaining to some of our readers who contemplate adding honey to their home products to hear how a young man of 76 years lifted himself into an apiary in southern California. His name is E. Gallup and he lives in Santa Ana, Orange county. He tells the *American Bee Journal* how he did it.

How to Start in California.—I have been asked by many correspondents how a person with small means could start an apiary in California. I started in last spring with two colonies of bees—a good one, and one with a poor queen, so it did not amount to much until I introduced a new queen. I found one swarm in March, and had two swarms given to me in April—one of them a good one, and the other weak in numbers, and required considerable nursing and feeding to keep it alive.

The first swarm found filled its hive and cast a good-sized swarm in twelve days. In six days I found the swarm queenless. On examining the old colony for a queen cell I found every comb built all drone comb, and drone brood, and queen cells built over drone brood. The new swarm had built all drone comb also, and it was two months before I could get a laying queen in either of those colonies, on account of the weather being so cold and windy. I succeeded in rearing one queen, but she was balled and killed in front of her hive on her return from her wedding trip.

There was no headway made at all until some time in June. I started in with Gallup hives, but intending to rear bees for sale I thought it best to adopt the standard Langstroth hive. So I made all Langstroth hives, and have transferred all the first six colonies to them. I have purchased and had donated to me twelve queens.

Hives and Supplies.—I have made all my own hives (forty-five single ones) myself. I made one observation hive and one sun extractor. The cost of single hives for material was 32 cents each. The tools used were a common handsaw, one carpenter's square, two hammers (one large, and one small for nailing frames) and a common jackplane—not an expensive outfit by any means. The hives are all made from first-class redwood lumber, and all are good substantial well-made hives.

I have purchased $8 worth of comb foundation, and used nearly all of it. I lost one queen in introducing, and came very near losing another by following the directions sent with the queen. I learned some fifty years ago how to introduce queens with tobacco smoke, from an old Hollander, and I have never failed by that process. I can remove a queen and introduce a new one in from ten to fifteen minutes.

Notice to Returning Queens.—Another kink I learned from him also is this: When you have to set hives close together, side by side, and the young queens come out on their wedding flight, mark the front of the hive so the young madam cannot make a mistake. I pin a piece of newspaper, cut in a peculiar shape, over the entrance of one hive; over another I pin an old black hat; over another a paper sack (inflated) just above the entrance, etc. Make your marks, whatever they are, as odd and prominent as possible. I have had six queens come out in one day, close side by side, and no mistake made in getting back all right; while I neglected two hives, and had both queens to go into one hive, but I discovered the mishap in time to save them both. I never had lost a queen in that manner, if I attended to "posting notices" just over the entrance. They can be removed as soon as we are done with them. I dislike painting the fronts of the hives different colors, as recommended by some. The old Hollander had over 100 hives set in a row, all alike, and only about two inches space between each hive, and he said that posting notices as above proved infallible. It certainly has with me.

During the bad weather in spring I fed $3 worth of sugar, all told. I now have thirty good colonies of bees, all Italiauized. If the two months in spring had been as good as it usually is here, I could have made sixty colonies just as easily as to have made the thirty.

At the time I commenced my "bee factory," last spring, I would get breakfast and be at the west end of town (two miles from home) at work by 7 o'clock in the morning. On my road home I would come past the lumber yard and take a board or two, as the case might be, on my shoulder, and get up at break of day, feed the thoroughbred Langshans, Brown Leghorns and Wyandottes, Pekin ducks, turkeys, and thoroughbred white fantails and the pony; then make a beehive before my neighbors were out of bed.

THE HOME CIRCLE.

The Old House.

It stands in a desolate, weed-grown garden,
Where once the rose and the lilac grew,
And the lily lifted a waxen chalice
To catch the wine of the summer's dew.
The grass creeps in o'er the mossy threshold,
The dust lies deep on the rotting floor,
And the wind at will is coming, going
Through broken window and open door.

O, poor old house, do you grieve as men do
For the vanished things that were yours of yore,
Like a heart in whom love was one time a tenant,
But has gone away to come back no more?
Do you dream of the dead as the days pass over?
Of the pang of parting and joy of birth
In hearts turned dust? Ah, that dust is scattered
By winds of a lifetime to ends of earth!

See! here by the path is one little blossom!
It lifts to the sunshine a fragile face.
It springs from a roof that some dead hand planted
A century back in the dear home place.
Little thought they whom the old house sheltered
That life would fade as the leaves that fall.
They had their day and are quite forgotten—
The little flower has outlived them all.

—Eben E. Rexford.

Vanished Days.

I gaze away o'er the withering fields,
Once gladdened with a cheerful sky;
And the fitful gusts go clamoring by,
As if searching for the leaves that die,
From a hand dire anguish wields.

In a cranny or some sheltering place
I see a vine or spray of green
Still clinging in all its beauteous sheen,
Lending a luster to the scene,
Which must soon fare like its race.

They have quickly fled, those rapturous days,
Like phantom of youthful dreams!
Through a vista lined with ruddiest gleams
I wander in thought where pleasure seems
To brighten my outer gaze.

—George Sands Johnson.

The Colonel's Plan.

(Continued from last week.)

II

The colonel's attentions grew and upon Mrs. Kennedy their effect was marked. She became curiously gracious by fits and starts to her daughter-in-law, and the acid undercurrent slipped out of her talk. Rosebud was greatly puzzled, but rejected the suggestion that Archie proffered with disdain. Her father—her dear, faithful soldier father—could not have any such intention. It was not likely. So Archie held his peace.

* * * * * * *

"Come over to tea with me some afternoon," said the colonel once, and Mrs. Kennedy, who took all his speeches to herself responded:

"Charmed."

He fetched them in the dogcart, and Mrs. Kennedy got up as lightly as she was able, and fancying that only old ladies were supposed to dread accidents, would not show her terror, but sat smiling nervously, while the horse capered round and round. Rose held on behind and wondered.

It was a lovely day. They skimmed along with glimpses of moor and sea, beyond the rowan-fringed highroad. Mrs. Kennedy chattered happily, pointing out little bits of scenery to the colonel, who, fully occupied, could only glance at them out of the corner of his eye and mutter "beautiful."

There were houses here and there, showing through trees dimly, as became country mansions. Mrs. Kennedy did not omit to take note of these.

"Do you see Castle Whin?" she said.

"It is quite deserted now since Sir James went abroad. He has been frequenting some foreign bath place for his gout. I am sure it must be Monte Carlo, really—because he was always rakish. He was an old admirer of mine, by the way."

She laughed, a little high pitched laugh, and kissed her hand to the chimneys of Castle Whin. Then she looked behind graciously.

"My dear Rose, are you comfortable?"

They turned in at the gate, and the colonel made a pretty speech. Mrs. Kennedy skipped up the steps, expressing her curiosity to see the wonderful trophies of his adventures.

"I shall be delighted, if it will not bore you," said the colonel, courteously.

Rosebud rolled up her gloves and ran out into the garden to fill her hands with flowers from the dear old untidy home. She could hear the colonel throw up the windows to let Mrs. Kennedy see the view, and she could hear her mother-in-law making exclamations in a young and affected voice. But the flowers, the familar flowers, were smiling up and Rosebud forgot everything else, bending eagerly over the borders.

The colonel was taking Mrs. Kennedy all over the house, sparing her no tiger story, no pig-sticking tale. There was only one door that he did not unlock, walking past it hastily.

"And this?" inquired the visitor in passing; but he did not seem to hear.

Lastly, he invited her to behold his study, and the treasure it contained.

"What a delightful room," said Mrs. Kennedy, sinking deep into a shabby old leather chair. She was slightly fatigued by the royal progress from room to room, although she did not show it, as her color was not able to come and go.

The colonel looked wistfully around his den.

"A few little touches would make it charming," went on Mrs. Kennedy. "At present it gives too much of a brown effect. A lighter paper—and art serge drapery—and a few frilled cushions, would make it lovely. And then these old swords want polishing.

"Whom have I to do that for me?" said the colonel suddenly, leaning against the oak mantelpiece, grizzled and brown as himself. "I am only a solitary old soldier, as rusty as my swords, and who would take pity on me in the kind way you suggest? I have nobody to—ah—frill my cushions."

Rosebud's mother-in-law sighed gingerly, and said nothing. The blush was fixed in her cheek.

* * * * * * *

The tea-table was brought in Rose waited, making her flowers into bunches and rubbing the roses against her cheeks. The other two were long. Perhaps the colonel was wearying out her mother-in-law with his old Indian stories—and then Mrs. Kennedy would be tired and cross and she would suffer. Oh, if only she and Archie could have a home to themselves! No house could be big enough for them, as she had discovered. It was of no use bothering Archie; poor Archie, who could not help it and who must not know that his little wife was unhappy, that she could hardly bear the tyranny of his own mother. * * * She was not sorry—oh no, she dared not imagine she regretted having persuaded the colonel not to make them wait. He had said that it would be better for them to marry when Archie's success had made his position as good as his birth; he had looked higher for his little Rose. But she had been willful and had got her way, and—oh, she was not, would not be sorry. But it was very hard.

Her mother-in-law came in, followed by the colonel, who shut the door.

"I have some news for you, Rose," said he, standing awkwardly in front of his daughter. "Mrs. Kennedy has done me the honor to promise to be my wife."

* * * * * * *

"Oh, papa!"

Rose had succeeded in getting one minute alone with her father, and out came the reproach that had until then been only in her eyes.

"Aren't you glad, little one?" said the colonel.

"Glad?" repeated Rose with a gasp. She had not thought of herself—she could not stop to consider her own affairs. Only she thought of a white stone cross with "Until the Day Break" written on it—and of untouched memories. When the day did break, how would it be, after this—desecration? "Oh, papa, papa, how could you?" she cried, trying vainly to recover from the shock. The colonel winced. He could not say to her: "It's the only way I could think of to rescue my little girl from being bullied. And the dead will know why I do so." But he laid his hands on her shoulders, remarking stoutly:

"So you don't approve, Rosebud? Ah, but you must remember that I have no little girl to look after me now. Think it over, think it over as we drive back. A stepmother can't be as bad as—well, well, give me a kiss and be quiet."

"I am ready, good people," interrupted Mrs. Kennedy, tripping briskly in. "Run and put on your things, my dear, and let us make haste. We have news for Archie, haven't we? He will be so astonished."

* * * * * * *

"What has come over the colonel?"

"Heaven knows. Or perhaps the other place has more to do with it. He looks very queer."

"Some old bullet making itself unpleasant."

"More likely to be a new bullet, between ourselves. He looks as if he would be happy to put an end to himself. May mean to do it with a halter."

"What do you mean?"

"Why, he is always hooked on to old Mrs. Kennedy. Never comes to the club now. But if you look over there you'll see him three days a week, sitting in the middle of smoke and varnish, while the old lady frisks about with a teakettle."

The men grunted. They were smoking in the veranda of the Golf Club, a solid stone building with a tower, and they looked across the links to an imitative structure that the Ladies' Club had erected on a hillock. Ladies were not allowed in the club, and to avenge the lack of privilege they had made a law that no man should enter their domain. When they had parties, they handed teacups out the windows, But gradually the severity of the laws lessened, and fathers, brothers and other people's brothers were taken into the pavilion and given tea in the small, varnished room, with its rows of lockers and its smoking stovepipe.

Of late the colonel—the colonel who used to sit and smoke with his cronies in the club after his round on the long course—had been observed with horror pottering around the ladies, linked with Mrs. Kennedy, and stooping his head under the pavilion lintel. His old friends began to fancy that he was mad.

It was one fine afternoon, when the sea and the sky were blue and the golf links were a vision of green delight that six veterans sat in the club veranda and judged the colonel.

"It's all up with him," said one, pointing grimly with his pipe to two objects on a far hillock. One was the colonel, leaning heavily on his putter—and the other, skittishly clad in scarlet, was Mrs. Kennedy. "All up with him. An old soldier should be able to run away. However, he has gone down. He is going to marry her."

The other five started out of their chairs.

"Absurd."

"True," and there was a universal groan, in the middle of which a newcomer pushed open the glass doors and came out on the veranda.

"What are you plotting, hey?" said he. They made room sadly.

"You have come home to behold strange signs and portents, Sir James," said the teller of the news. "Your old flame—Mrs. Kennedy—is going to get married."

"What! Annie Kennedy! She must be an old woman," remarked Sir James, settling himself in the midst. He was a rakish old baronet with a twinkling eye and a love of gossip. The smokers drew together and told the news, going on to other stories and the doings of ten good years.

"I shall go and call upon Mrs. Kennedy," said Sir James, with a chuckle.

III.

Mrs. Kennedy sat in state in the peacock drawing-room. She had had many callers lately.

Rose was a meek accessory to these receptions. She shook hands and sang when she was requested and then subsided or managed to slip away to watch for glimpses of Archie across the street. Mrs. Kennedy did not require her presence.

The bride-elect was in all her glory when Sir James came to call. A party of lady friends had just departed, evidently struck by the youthfulness of their hostess. She had grown—or made herself—twenty years younger. The knowledge that they saw it brought a gleam of triumph to her eyes as she stepped forward to greet her old admirer.

"You are quite a stranger in Scotland, Sir James," she said.

"Who drove me away?" said he, dropping into the manner of a great many years ago.

Mrs. Kennedy laughed airily. She was looking her best, with a bright dab of pink upon either cheek. "The gout, I was told," said she.

Sir James edged his chair a little closer and chuckled. She was a fine woman, and had worn wonderfully. "So you are to be congratulated, hey?" he said. "I didn't know you were in the market. 'Pon my honor, it is too bad!"

Mrs. Kennedy's eyes were lit up with a sudden gleam.

* * * *

The colonel was marching up the street to call upon his bride. He looked up as he crossed the road. Mrs. Kennedy was in the habit of stationing herself at the window when he was late, and of tapping archly upon the pane. To-day he could not distinguish anything, for the afternoon sun was shining upon the glass. He walked down the entry and rang the bell. Then he was taken up. Mrs. Kennedy received him in the dressing-room. She greeted him with an embarrassed laugh that was strangely like a girlish giggle.

"I am so distressed!" she said.

"Anything the matter with Rose?" said the colonel, quickly.

"Oh, dear, no! This concerns you more—personally," said Mrs. Kennedy, hesitating.

"Personally?" The colonel could not help staring.

"The fact is," she continued, "I must throw myself on your generosity and beg of you to release me."

"My dear lady," began the colonel, anxiously— Was his only plan to be scattered to the winds? He had gone through so much already.

"Pray forgive me," said Mrs. Kennedy, with her handkerchief to her eyes. "I cannot tell you how culpable and vexed and sorry for you I feel. But, colonel, first love is unconquerable! And Sir James Dalrymple of Castle Whin has—has been to see me. We were attached to each other long ago, but he was not presumptively Sir James then, and there were obstacles. So I eventually married poor Mr. Kennedy. * * * But the lapse of years is a trifle—a mere trifle—and when I discovered that his feelings are still the same, I could not help letting him see the state of my own. With his position in the county and his gout, and the great, desolate house of Castle Whin, he requires a helpmate. You will be angry with me, colonel, but I could not resist his appeal. I feel for you most sincerely, and I trust that you will find some other who will be to you all that I might have been."

The colonel bowed solemnly over her hand and took his leave. He found it very difficult to express himself, and his only resource was flight. But on the landing his feelings got the better of him and he could not help indulging in an impromptu war-dance, eloquent of joy.

Rosebud happened to look over the stairs. Her voice rang down anxiously from above:

"Papa, what is the matter? Oh, papa!"

"Cramp, my dear, cramp," said the colonel, hastily.—Chambers' Journal.

Do you want to know the man again whom you have most reason to guard yourself? Your looking glass will give a very fair likeness of his face.—Whatley.

Gems of Thought.

Discover the opinion of your enemies, which is commonly the truest, for they will give you no quarter, and allow nothing to complaisance.—Dryden.

As a man may be eating all day, and for want of digestion is never nourished, so endless readers may cram themselves in vain with intellectual food.—Dr. Watts.

God sends His teachers unto every age, to every clime and every race of men, with revelation fitted to their growth and shape of mind, nor gives the realm of truth into the selfish rule of one sole race.—James Russell Lowell.

In nothing and never has a man the right to think, or believe, or feel, or say, or do what he pleases. Always must he do what right demands. He is bound. There is no such liberty as men often boast of anywhere in God's world. No such free speech or free thought as men sometimes demand exists, and more than free doing of like sort or free feeling exists. As men must feel right and do right, so they must think right and speak right. They must be ruled, regulated, or soon go to wreck. True men are always bound. Their true liberty is in that they are bound by best forces. Bondage to right is the highest and only real freedom. Slavery is not in being bound, but in being bound to wrong.—Temilron.

The only sure way of avoiding these evils is never to speak of yourself at all. But when, historically, you are obliged to mention yourself, take care not to drop one single word that can directly or indirectly be construed as fishing for applause. Be your character what it will, it will be known; and nobody will take it upon your own word. Never imagine that anything you can say yourself will varnish your defects or add luster to your perfections; but, on the contrary, it may, and nine times in ten will, make the former more glaring and the latter obscure. If you are silent upon your own subject, neither envy, indignation nor ridicule will obstruct or allay the applause which you may really deserve; but if you publish your own panegyric, upon any occasion, or in any shape whatsoever, and however artfully dressed or disguised, they will all conspire against you, and you will be disappointed of the very end you aim at.—Lord Chesterfield.

Curious Facts.

The largest mammoth found in the Siberian ice fields measured 17 feet in length and was 10 feet high.

The jaw bone of the average whale is 25 feet in length. The tongue of such a monster will yield a ton of oil.

Eighty-one employes of a Worcester concern recently celebrated their twenty-fifth year as workmen for the same company.

The wettest spot on the North American continent is Neah Bay, Wash. At that place an average of 123 inches of water falls every year.

Strangers who went to the czar's coronation were astounded at the unpaved condition of Moscow. They found that it would cost $30,000,000 to pave the town, and that the work would practically have to be done over every year on account of the frost.

The longest ride for a 5-cent cash fare in miles is as follows: New York 12½, Chicago 15, Philadelphia 11¾, Brooklyn 18, St. Louis 15, Boston 10, Jersey City 8¼, San Francisco 12, Minneapolis 13, Cincinnati 13½, Cleveland 10, Buffalo 13¾, Lynn 6, New Orleans 7, Washington 9½, Detroit 10, Milwaukee 9, Kansas City 11, Louisville 9, Rochester 9, Denver 11½, Indianapolis 11.

Nature takes the time when one is lying down to give the heart rest, and that organ consequently makes ten strokes less a minute than when one is in an upright posture. Multiply that by sixty minutes and it is six hundred strokes. Therefore in eight hours spent in lying down the heart is saved nearly five thousand strokes, and as the heart pumps six ounces of blood with each stroke it lifts thirty thousand ounces less of blood in a night of eight hours spent in bed than when one is is an upright position. As the blood flows so much more slowly through the veins when one is lying down, one must supply them with extra covering to provide the warmth usually furnished by circulation.

To test the supposed advantages of a nap after dinner, Dr. Schule of Fribourg has made a series of experiments on two normal subjects. The contents of the stomach were analyzed a few hours after meals, some of which were followed by sleep and some were not, and the results indicate that sleep weakens the stomach's movements, while the acidity of the gastric juice is increased. On the other hand, simple repose in a horizontal position stimulates the motion of the stomach without increasing the acidity of the gastric juice. It is concluded, therefore, that one should stretch himself out for a rest after a hearty meal, but should not go to sleep, especially if the stomach is in a dilated condition, or its juices very acid.

It is often remarked, and particularly after the eruption of a volcano, that pumice stone ought to be plentiful and cheap, as quantities must have been ejected during the volcanic disturbance. As a matter of fact, however, none of the white stone in general use is obtained from active volcanoes. It comes from the deposits of the article discovered in one or two quarters of the globe, the best of which is at present to be found in the island of Lipari, situated in the Tyrrhenian sea. The island is mountainous in character and consists of tuffs and lavas, and of highly siliceous volcanic products. The district where the stone is found is called Campo Blanco or Monte Petalo, 1500 feet above the level of the sea.

Popular Science.

The sun is 92,500,000 miles from the earth. The latter receives only one two-billionth of the solar heat.

The nearest fixed star is 16,000,000,000 miles distant, and takes three years for light to reach the earth.

For seven years the St. Lawrence river gradually decreases in depth; then for seven years it gradually increases in depth, the difference in level being about five feet. Why it does so, no one has yet discovered.

Dew is a great respecter of certain colors. To prove this, take pieces of glass or board and paint them red, yellow, green and black. Expose them at night, and you will find that the yellow will be covered with moisture, and the green will be damp, but that the red and black will be left perfectly dry.

The influence of moisture on vegetation has been found by M. Edmond Gain to vary greatly at different periods in the growth of the plants. As a rule water is urgently needed when the first leaves are appearing, then little is called for until just before blossoming, when a large supply is demanded. The fruit is best perfected in comparative dryness. Very few plants require constant moisture, and in all experiments tried the plants that were watered at the two critical seasons of first growth and the beginning of blossoming did as well as those that were constantly watered. Moisture in the soil favored increase in the number of fruit, seeds and roots, while dryness tended to promote greater size and perfection of seeds and tubers.

Some of our chief authorities on power seem to be of the opinion that liquid fuel is likely to displace coal in the near future over a large area. The residue of the distillation of petroleum or shale oil, known by the name of mazouth and astatkis, is successfully used on more than seventy-two locomotives on the Volga railway. In England there has recently been constructed a torpedo boat of about eighty-six tons displacement. She has a double bottom, divided up into eight water-tight compartments, which are used as tanks or bunkers for the oil, and which holds from fifteen to sixteen tons. As these compartments are emptied of the liquid fuel they are filled with water, so that the draught and stability of the boat remains always the same.

The mountains of the moon are immensely larger in proportion than those of the earth. The moon is but one forty-ninth the size of the earth, but its mountain peaks are nearly as high. Twenty-two are higher than Mt. Blanc, which is within a few feet of three miles high. The highest is a little more than four miles and a half.

DOMESTIC ECONOMY.

Hints to Housekeepers.

Hot lard can be tested to see if it is at the right heat by putting in a small piece of bread. If it browns immediately the lard is hot enough for frying.

Try to remove the stains of old paint from cotton or woolen goods by first rubbing over the stains butter or olive oil, to soften the paint and then using chloroform on them.

In a sick room where there is a fever patient the temperature may be lowered quickly by hanging up sheets wrung out of ice or very cold water, and fastening them to the doors and walls.

Table linen, the napkins particularly, should be carefully looked over before they are put into water to see if it is stained with fruit. By rubbing peach stains in alcohol before the linen is put into water the stain may be readily removed.

In making glue, break the sheets into small pieces, cover them with strong vinegar, and let them soak a few hours. Then heat to boiling. When the glue becomes cold it should be like a jelly. When the glue is to be used, the vessel containing it should be placed in a dish of boiling water to soften the glue.

When a decanter becomes so discolored inside that shot or fine coal will not cleanse it, fill the bottle with finely chopped potato peelings, cork tightly and let the bottle remain for three days, when the peelings will ferment. At the end of that time rinse the decanter out with warm water and the stains will be found to have disappeared.

In the fall cleaning of closets and storerooms the best thing to wash the walls and shelves with is a strong, hot solution of alum water. A brush should be used for the purpose, as that will reach every crack and crevice. Hot alum water is a good eradicator for all sorts of pests, and will also kill the eggs, while hot water and soap seem to aid in hatching them.

In some of the many trips taken to the seashore do not forget to bring home some clean white sand. It will be found very useful in arranging flowers for the table in low, shallow dishes, as well as for scouring purposes. If a jardiniere is filled three-quarters full with this sand, cattails and grasses can be arranged much more gracefully, the sand being heavy enough to hold the stalks in their proper places.

When frying croquettes, after rolling them in beaten egg and crumbs, lay them in a wire basket and plunge the basket deep into boiling hot fat. Then a crust is formed at once over the outside, which prevents the grease from penetrating. When the croquettes are browned transfer them to brown paper to absorb any grease that may adhere to them. If not quite ready to serve, let them remain upon the paper at the mouth of the oven to keep them hot.

Even when not in use cut glass should be washed at least once a week, as the dust easily accumulates in the cuttings, hardening very quickly. The glass should be washed in warm, not hot, water, softened by a little ammonia or borax, rinsed in warm water, and buried, while still wet, in fine sawdust for several hours. When perfectly dry, the sawdust can be removed with a soft bristle brush. While in the warm water a few bird shot should be rolled in the slim-necked vases, bottles and decanters to clean the inside.

Domestic Hints.

Cream Soup of Lima Beans.—Soak one cupful of beans and cook till soft, and rub through a strainer. There should be about one pint of the pulp. Scald one pint of milk, thicken with one tablespoonful of butter and one-half tablespoonful of flour cooked together. Add the bean pulp and season to taste with salt, pepper and onion juice.

Fricasseed Chicken with Oysters. Fricasseed chicken with oysters is particularly good. The chicken is cut up in the ordinary way, and, after being neatly trimmed, is placed in a saucepan with some clarified butter, seasoned with pepper and salt, and fried a light brown. Pour off the butter, add three dozen parboiled oysters, with their liquor previously reduced in quantity and strengthened by boiling, two large gravyspoonfuls of good stock and a gill of cream. Set the whole on the fire and simmer a few minutes, and then dish up the entree with fried croutons of bread, arranged as a garnish.

Preserved Quinces.—Rub off the down from the fruit; pare, core and quarter it. Allow three-quarters of a pound of sugar to one pound of fruit. Cook the cores and skins with water to more than cover them. Let this boil ten or fifteen minutes, then strain, and cook the quinces, a few at a time, in this water until they can be pierced with a broom straw. Lay them on a platter. When all are cooked, add the sugar, allowing three pounds to each pint of juice. Place the fruit in the syrup and keep it at a boiling heat (not boiling rapidly) for two or three hours, on the back of the stove, until the quinces have a rich, reddish color.

Apple Meringue.—One of the most inexpensive of desserts is an apple meringue. This is not to be confounded with an apple meringue pie, which is made of a strained apple sauce, flavored with lemon peel, is spread, if you wish, with apple jelly and a meringue of the whites of three eggs, three tablespoonfuls of sugar and the juice of a quarter of a lemon, the whole baked in a crust. An apple meringue is not baked in a crust. To make it, select six medium-sized rather tart apples; core and peel them and put them in a porcelain-lined saucepan with half a cup of cold water and half a cup of sugar. Cover the apples closely, turn them after they have cooked three minutes, and baste them thoroughly. Repeat this process in three minutes more. When the apples are tender, but before they break apart, take them up very carefully with a large spoon, so as to keep them whole. The syrup on them will be nearly all absorbed; pour the little that remains over them. It should not be over a quarter of a cupful. If it is more, reduce it. When the apples are cold, fill the cores with jelly and pour a little melted jelly over each one to glaze it. Apricot and currant jellies are both excellent, but nothing is better than a jelly made of a pint of apple skins and cores boiled in a cup of water until tender. It will take about half an hour. The juice is then pressed out of the pulp, measured and sugar added in proportion of a pint to a pound. Add four strips an inch long of the yellow peel of a lemon. Reduce the liquid until a jelly is formed. It is better to prepare the apples and glaze them and fill them with jelly the day before they are served. They should be put on a thick plate. Half an hour before serving, beat to a stiff froth the whites of three eggs, three tablespoonfuls of powdered sugar and the juice of half a lemon. Pour the meringue over the apples on the plate, drawing it down to the edge, and allow a little to glaze the edge. Dredge it thickly with powdered sugar, and set the plate on a thick block of wood in a slow oven. In twenty minutes the meringue will be a very delicate brown. Serve the dish at once. The block of wood protects the apples from the heat, so that the jelly in them does not melt, but the apples remain in glace. The tart apples enclosed in this sugary meringue are very nice.

A School Frock and a Charming Gown.

A PRETTY COMBINATION.

1005—Myrtle Frock.

Sizes for 8 and 10 Years.

Dark cashmere or serge and brightly plaided wool or silk are the fabrics used for this pretty frock, which is not too dressy for school or every-day wear; yet is is also quite appropriate for an afternoon frock. The guimpe effect may be either simulated or real, as preferred, the advantage of the latter being that the frock can be varied by wearing different guimpes. The skirt may be lined or finished with a deep hem and should be sewed to the waist in plaits or gathers. Light and fancy woolens or silks may be used for this model, with any preferred contrast.

A special illustration and full directions about the pattern will be found on the envelope in which it is contained.

A SMART RECEPTION GOWN.

997—Myanotis Corsage.

Sizes for 34, 36, 38 and 40 Inches Bust Measure.

Heliotrope taffeta and velvet of a darker shade are the fabrics used for this charming gown, the "Myanotis" corsage and "Nahant" skirt combined. The skirt and sleeves are of silk and the jacket-waist is of velvet. The shoulder-collar forms one deep scallop in the back. It is embroidered, but appliques of guipure or Honitan braid would be quite as effective. The edge of the collar is finished with a frill of narrow lace. The full front is of green chiffon, and folds of it are used for the girdle and stock-collar. The jacket fronts are cut in scallops, which are finished with a frill of lace, and in the center of each is a jeweled button. The sleeves illustrate one of the popular fancies, which is a compromise between the large and the tight sleeves, retaining the fullness at the shoulders.

866—Nahant Skirt.

Sizes—Medium and Large.

This popular model has five gores and measures five and three-quarters yards around the bottom. The front and side-gores fit the figure trimly at the top, and the back gores, which are very narrow at the top, are laid in two box-plaits. Any of the popular silk, woolen or cotton fabrics may be chosen for this model, and the favorite finish for the bottom is a deep facing of crinoline or haircloth and velveteen binding.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

Fashion Notes.

Navy blue is to be one of the favorite colors for the cold season, just as it has for ages past, and is likely to be for many more. It drops into disuse every little while until some even-minded woman, who knows its worth, comes out in a stunning new rig of it, and starts the world of fashion anew after gowns of navy blue.

It is such a ready color to combine with others, and may be as dressy or as plain as one wishes. All summer seashore gowns of navy blue and white figured silks were worn, and so gradually the shade has crept into the affections once more.

For service a skirt of navy blue canvas cloth, of broadcloth or serge, nothing can equal it, while for dressy wear a smart skirt of navy blue crepon or canvas cloth over silk is beyond compare. White or scarlet or a touch of gold brightens up a gown wonderfully, and is used as a color point on many of the new fall gowns.

One of the prettiest of these blue gowns is made up of a soft-faced serge, with a perfectly plain, wide skirt, interlined with white taffeta. The bodice is in blouse effect, seamless at both back and front, with the fullness at the back drawn smoothly into a narrow ribbon belt of white taffeta. A smooth vest of white taffeta is set in at the front between two wide tucked box plaits. A folded stock of white taffeta is finished at the back by a full bow. The sleeves are snug to the shoulder, and closely wrinkled. The tight effect is taken away by the flaring of two wide ruffles set in at the shoulder, lined with white taffeta.

Another chic blue gown has the entire bodice laid over with close rows of scarlet, gold and white braid and a mass of tiny brass buttons at the front.

The changes in the cut of skirts and sleeves will not be so rapid as people had reason to believe, but will come slowly, and so will not plunge women into despair immediately. The newest skirts seem to be modified as to flare.

Shirred chantilly tulle, both black and white, is very much used for evening or home wear, and is made without any lining. The effect of the arms seen through innumerable folds of the transparent material is very charming.

Purple and dark red are both colors that will put in an appearance this fall.

Another feature of the autumn modes is that the seams will all be defined in the cloth or tailor-made gowns either by stitchings or broad-stitched strappings.

Some charming little boas that have come out with the fall fashions are made of ostrich feathers in natural tints mixed with white feathers. They have five tails in front and are very useful in chilly weather. Fur boas are much shorter this season, especially those of Astrakhan and sable, being thus adapted to the high collars that appear on most of the winter models.

Furs are just beginning to be discussed. Those that promise to be most fashionable are sable, mink, Sitka fox and chinchilla. Many of the jackets are made in sack shape, and this style seems to suit the furs to perfection. They hang so softly and gracefully that, without doubt, this will be the prevailing shape for both Astrakhan and seal jackets in the coming season.

The prettiest hats show a combination of black and white. White felts are loaded with black cock feathers, or are lined with black and trimmed with white gardenias and black quills. Sometimes green cock feathers trim the white felts also, with drapings of yellow lace added.

It is the fashion to wear the most unnatural-looking birds on hats. Some of them are a combination of four or five different species. The tails of two kinds are combined with the wings of a third and the head and breast of a fourth. Mixtures of feathers are also used, such as the plumage of birds of paradise and ospreys and owls' heads with jewelled eyes and black and white quills. Rosettes are made of white swans' feathers tipped with chenille, and partridge wings are backed by bright feathers of any kind.

Nothing is more becoming to the small girl than mull and lace. She can bear it in most delicate tints next to her fresh young skin, and it will add only new charms to her clear, laughing eyes.

Plaited ribbon or silk is in great demand for brimless hats, and very little is needed besides, sometimes merely a rosette of lace being quite sufficient. If anything more is needed to give added chic, frills may always be used in contrasting colors.

Hats of all mull are fashioned on wire frames, and a great advantage of the material is its soft, yielding quality, which makes it easy to place. If it is plaited in fine machine plaits, it may be laid about the crown and face without the least difficulty.

Catarrh Cannot Be Cured

With LOCAL APPLICATIONS, as they cannot reach the seat of the disease. Catarrh is a blood or constitutional disease, and in order to cure it you must take internal remedies. Hall's Catarrh Cure is taken internally, and acts directly on the blood and mucous surfaces. Hall's Catarrh Cure is not a quack medicine. It was prescribed by one of the best physicians in this country for years, and is a regular prescription. It is composed of the best tonics known, combined with the best blood purifiers, acting directly on the mucous surfaces. The perfect combination of the two ingredients is what produces such wonderful results in curing Catarrh. Send for testimonials, free.

F. G. CHENEY & CO., Props., Toledo, O.

Sold by druggists, price 75c.

IN 1865 the eleven street-car lines in New York carried 80,000,000 passengers in a twelve-month. In 1875, 13 lines carried 140,582,793; in 1878, 15 lines carried 169,105,739; in 1883, 15 lines carried 266,164,236; in 1893, 16 lines carried 453,652,064. It is estimated that the traffic for 1896 will not be far from 1,000,000,000 passengers.

An Echo From Shiloh.

COUNTY TREASURER UTTERBACK RECALLS HIS EXPERIENCE ON THE BATTLEFIELD.

From the Nonpareil, Council Bluffs, Iowa.

County Treasurer A. Utterback, of Glenwood, Ia., has long been one of the leading citizens of Mills county, and since the days of his service for the Union cause has labored industriously at his home in Rawls township, with the result that he has not only surrounded himself with almost all the comforts heart could wish, but has grown into the esteem of his fellow men. His popularity and standing, therefore, made his election to the County Treasurership easy. His work as County Treasurer, however, was confining. Coming as he did from active outdoor life on the farm to the close and confining duties of the treasurer's office, he quickly began to run down in health and to visibly fail in strength and energy. The Deputy Treasurer, Mr. Lon Sawyer, is a great believer in the efficacy of Dr. Williams' Pink Pills. His constant advice to his employer, Mr. Utterback, was to the effect that he should use these pills. Finally Mr. Utterback consented, and now after having used several boxes he is able to make the following statement to your correspondent:

"Have I used Pink Pills? Yes, sir, and I shall continue to use them just so long as they benefit me as they do now. It is rarely that I use proprietary medicines, but my deputy was so enthusiastic over this particular medicine that I consented to try it, and I can assure you the benefit has been great.

"I was a member of Company F, 15th Iowa Infantry, and saw my first day's service in the battle of Shiloh. The campaign before Corinth and later the Siege of Vicksburg were important events in the service as seen by our company, and, as you can readily imagine, we were greatly exposed and at times but poorly cared for during those awful days. In my case, army diarrhœa was the result. It has been the burden of my life for over thirty years, but at last I have found something to conquer it. The Pink Pills are a success in my case, as I have no doubt they will be with all who use them."

The reporter afterwards called upon Wm. Skillicorn, the popular druggist, and from him gained the information that Dr. Williams' Pink Pills have reached a most surprising sale in this community. "But of all the cures," said the pharmacist, "that of Treasurer Utterback is the most remarkable and, at the same time, the most gratifying."

Dr. Williams' Pink Pills for Pale People are now given to the public as an unfailing blood builder and nerve restorer, curing all forms of weakness arising from a watery condition of the blood or shattered nerves. The pills are sold by all dealers, or will be sent post paid on receipt of price, 50 cents a box or six boxes for $2.50, (they are never sold in bulk or by the 100), by addressing Dr. Williams' Medicine Company, Schenectady, N. Y.

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CATALOGUE ON APPLICATION.

Patrons of Husbandry.

To All Patrons of the California Jurisdiction.

As our readers have already been informed, the State Grange of California at its late session at Sacramento adopted the RURAL PRESS as its official organ. The arrangement is an easy one of mutual confidence; the Grange assumes no financial obligation toward or for the paper; the publishers surrender no part of their control of their own property. It is the understanding that a Grange department will be maintained in the paper, and that it will be open to communications from the officers and members of the Order for the discussion of Grange themes and for the reporting of general Grange news. No arrangement has been made for a systematic correspondence, but it is assumed that considerations related to the Good of the Order will be a sufficient stimulant to literary energy to keep the Grange ball in motion in the columns of the paper. Worthy Master Greer has shown in his annual report that he knows how to both think and write, and he can, no doubt, be depended upon for a considerable supply of correspondence. Secretary Mills, also, we hope, will be a regular contributor, reporting from time to time the news developed by his official correspondence. The new Lecturer, Past Master Davis, is a master hand in the literary line, and his brilliant work in the RURAL PRESS was a very notable and valuable feature of his service in the Master's chair. He is now a very busy man, but he is also a man who works well under pressure; and we confidently expect from him a steady stream of Grange literature. There are others among the State officers who by their relations to the Order and by their talents are well qualified for work in the same line. And there is, also, in the Past Masters of the Order—Steele, Coulter, Roache, Johnston, Webster, Flint and Overhiser—a corps of men wise in experience and fully informed of the conditions and needs of the Order and perfectly equipped to wield the pen in its interest.

But it is not the officers alone who give strength and victory to an army—and so with the Grange. Even if all the officers of the State Grange and all the past officers should be entirely faithful to the work, still it will be impossible to maintain a well-rounded and complete Grange department unless there shall be a steady stream of communication from the subordinate Granges. From one source or another there ought to be in the official organ at least once every month a report of the condition and doings of each subordinate Grange. We hesitate to suggest that this should be made the stated duty of some one person in each Grange, because experience has proved in case that others are likely to think that effort on their part would be superfluous and so remain silent. But some way ought to be devised by each Grange to secure a regular and sufficient representation in the Grange organ. It is a duty especially suited to the sisters of the Order, and we shall be very greatly disappointed if they fail to meet it with a ready spirit. And this, perhaps, is a good time to say that it is to the women that the Grange owes its existence to-day. Other Orders among farmers rise, have their brief day of popularity, fade out and are no more heard of. But the Grange ever moves, sometimes slower, sometimes faster, but always forward and always in the spirit of its high ideals. Why is it? The answer is easy: *It is because of the steady devotion of the women.* We have long been among those who believe that the position of the sisters in the Order should be recognized and emphasized by official promotion, and we should be very glad if at the next session of the California State Grange some one or more of the responsible official stations of the Order should be filled by women.

The RURAL PRESS re-enters with satisfaction into official relations with the Grange. It has never ceased its accord with the principles of the Order and even during the time when there was a special official journal, it steadily maintained its Grange department, and it has at all times been the most persistent and efficient disseminator of Grange information. It is right that it should be known that the RURAL does not make—nor seek to make—any financial profit out of its Grange relationship. It values the Grange as a useful promoter of intelligence and sociability and as an agency for securing to the farming class the advantages of organization and co-operation; and it holds it to be deserving of the support of all who stand in any relationship of responsibility or influence toward farming interests or farming people. We believe that if the possibilities of Grange usefulness could be impressed rightly upon the people of California, the membership of the Order could be vastly increased even in these adverse times and that its power could be many times multiplied. It is with the hope of enlarging the sphere of its influence and usefulness that we appeal to the members of the Order to make use of the columns of this paper. The RURAL PRESS goes each week into nine thousand homes and it is read regularly by at least forty to fifty thousand persons. It ought to be easy—it will be easy if all will work in concert—to make the Grange department so interesting that it will claim the attention of everybody who picks up the paper; and when this shall be accomplished the Grange will have a boom.

It is not necessary to discuss the causes which in times past have limited the literary activities of the Order in this State. They belong to the past and should be buried with it. It would be a pity, indeed, if experience had brought with it no instruction. And now, in truly fraternal spirit, with a single purpose and in that union which is the source of an enlarged strength, let us all pull together for the principles and for the organization we all hold dear.

Tulare Grange.

Tulare Grange met on the afternoon of Saturday, the 17th, in Good Templars' Hall, Visalia. Bro. Shoemaker gave an interesting account of the late State Grange meeting at Sacramento. From his account it must have been an enjoyable meeting, but the account led some of the sisters to think that the many excursions, receptions, luncheons, etc., given the State Grange left little time for Grange work. One good thing, however, the State Grange did; it made the PACIFIC RURAL PRESS the organ of the Order in California.

Tulare Grange thinks this is as it should be. Tulare Grange has an abiding pride in the Order of Patrons of Husbandry. It holds the Order to be the peer of any social, moral order in the land; that the State Grange of California is the peer of any in the United States, and as such should have an organ, if it has an organ at all: First, a paper thoroughly in sympathy and touch with agriculture in all its branches, and with the Order of Patrons of Husbandry; second, a progressive, scholarly paper; third, a paper giving the latest and most approved methods of agriculture in all of its varied branches; fourth, a paper with latest and most reliable market reports, of interest to farmers; and fifth, but not last or all, a paper that as an agricultural paper has no superior, and few equals, in the United States, if anywhere. Such a paper we consider the PACIFIC RURAL PRESS. Such a paper, only, we deem worthy of being the official organ of the State Grange of California.

Of late we notice, with something of the same pleasure we would the return of an absent, old friend, the return of Bro. Holman to the chair or desk of "From an Independent Standpoint." We always read Bro. Holman's statements with interest, often with profit, perhaps: some other times we imagine if the Brother would see things as we see them, it would be to his profit. However that may be, we sympathize with Bro. Holman on the causes which so long kept him from his desk and congratulate him on his return to the "Independent Standpoint," and *we* direct that he put on sufficient moral restraint to resist the temptation of consigning this to his handy waste basket.

Bro. C. J. Berry, who at the last meeting of the Grange in Visalia was appointed to circulate a petition and arrange for a Farmers' Institute to be held in Visalia, reported he could make no progress, owing to the present all-absorbing political condition, and was excused from further efforts until after the Presidential election.

The Committee on Good Roads reported many of the roads in this county are now in poor condition, and asked that a resolution pass requesting each candidate for supervisor—there are three to elect—to pledge himself, if elected, to do all he can to improve the permanent condition of our country roads. The resolution was introduced and passed.

It has been an old-time practice for Tulare Grange to observe Thanksgiving Day by a thanksgiving dinner and social good time at its hall. It was resolved the good practice would be kept up this year, and Tulare Grange will have Thanksgiving dinner and a social good time at its hall in Tulare on Thanksgiving Day. J. TUOHY.

Santa Rosa Next Year.

The choice of Santa Rosa as the place for the State Grange session of 1897 is in all respects a wise one. Sonoma county is either the first or next to the first county in the State in the matter of Grange membership and the attendance of local Patrons will naturally be large. Furthermore, Santa Rosa is the home of Secretary Mills and Lecturer Davis and of Past Master Coulter. The city and its surroundings are at all times beautiful and especially so at the vintage, which is the time of the Grange session. Older members of the Order recall with pleasure the session of 1887, held at Santa Rosa, when the people of Sonoma county showed a hospitality truly Californian in its warmth and general providence.

IN his address as president of the chemistry and engineering section at the recent meeting in Glasgow of the British Institute of Public Health, Prof. William Ramsay explained how the violet rays of sunlight act upon moist organic matter, producing hydrogen peroxide; how this peroxide becomes water, and hands on the remaining portion of oxygen to the organic matter, which it thus destroys or changes. Now, these changes are destructive to the life of minute organisms, such as the bacteria in sewage, and the germs of many, perhaps all, zymotic diseases, such as typhus and anthrax. These are the conclusions to be gathered from the recent work of Prof. Marshall Ward, Dr. Arthur Richardson and Dr. E. Frankland. We must have sunlight!

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Samples of either Elixir sent for 3 two-cent stamps to pay postage. 50 cents buys full sized bottle of either Elixir at any druggist or will be sent direct upon receipt of price.

DR. S. A. TUTTLE, 27 E. BEVERLY ST., BOSTON, MASS

The Future of the Sahara.

M. Bonnel de Mezieres, member of the Maistre and Attanoux Missions, has, says the London *Daily News*, expressed his opinion on the future of the Sahara, to the effect that there is no doubt that immense sand ocean will be in time changed into a fruitful territory. He says:

"The Sahara rivers which I have crossed all hide a rich subterranean stratum of water, and form the natural passages to the Soudan, on which, with very little trouble, vegetation can be largely developed. In the south of Temassinin and in the Igharghars there are groves of tamarind, gum trees, etc., of two miles long, scarcely separated by grassy and clover-covered plains. The rivers, which in spring are full of water, are from three to ten miles wide. When the water retreats, the beds of the rivers are changed into rich meadows. The date seeds planted by Flatters at El-Biod have grown without the least care into fine trees, and the same is the fact also of the seeds planted near the cisterns of Tebalbalet, in spite of the inconsiderate manner in which the Tuaregs get in the harvest. Trees are not so rare in the Sahara as is supposed. The Tuaregs often assured our expedition that we should have to march for two or three days without finding water, but very soon we found a little out of the path some filled up or otherwise purposely hidden wells. For the Tuaregs, who serve as guides to caravans, always choose the most difficult and desolate routes, in order to keep the caravans in a state of dependency. Caravans will become more frequent; travelers will succeed each other, but the secret of the Sahara is well kept, and its reputation of barrenness is still preserved. When Lieut. Hourst and Lieut. Bluyet explored the region and an arm of the Niger they found a lake nearly 100 miles long. And when the officers of the Timbuctoo extended their excursions, they found that not only one, but more than twenty, lakes existed—all very large, and stretching far to the north into the very heart of the supposed arid Sahara. If there be no water, and therefore no vegetation, where does the charcoal come from which is sold by the Tuaregs? Where do they find nourishment for the numerous camels, horses, sheep, asses and goats they possess?"

A French statistican, P. D'Amfreville, has recently made new estimates of the population of the globe and produces the following figures: Asia 825,954,000, Europe 357,379,000, Africa 163,933,000, America 121,713,000, Oceanica and the Polar regions 7,500,400, Australia 3,230,000; a total of 1,479,729,000. In Europe the number of inhabitants to the square mile is 95, in Asia 48, in Africa 15, in America 8, in Oceanica and the Polar regions 3, and in Australia 1. Accordingly, Europe contains for each of its inhabitants 2.8 hectares of land, Asia 5.2 hectares, Africa 17.6 hectares, Oceanica and the Polar regions 84.0 hectares, America 31.12 hectares, Australia 235.6 hectares. [A hectare is equal to 2.741 acres.] The yearly increase of population on the globe is about 5 to every 1000. At this ratio the population of the earth would be doubled every 139 years. In reference to the density of population, Belgium takes the lead with 546 to a square mile, followed by England with 312, Italy with 263, Germany with 237, France with 184, Austro-Hungary with 171, Spain with 90, Russia with 49. The average of all the other countries is 47 to a square mile, and the average for all Europe is 96. In Asia the 826,000,000 are distributed in the following manner: China takes the lead with 350,000,000, British India with 278,000,000, Japan with 40,000,000, East Indian Islands with 39,500,000, French possessions in India with 19,000,000, Corea with 10,500,000, English Burma with 7,500,000, Persia with 7,500,000, Asiatic Russia and Turkestan with 7,500,000, Siberia with 4,500,000, Afghanistan with 4,000,000, Ceylon with 3,000,000, Aribia with 2,500,000, all other parts of Asia with 43,500,000.

Western Real Estate and Building.

The accompanying table, compiled by the *American Land and Title Register*, shows the total amount of real estate transfers at twenty Western cities for the months of July and August:

	July, '96.	*Aug., '96.*
Chicago	$7,690,000	$6,188,512
St. Louis	4,361,000	4,720,265
San Francisco	757,928	826,298
Pittsburg	922,714	1,265,000
Detroit	1,161,210	1,062,338
Milwaukee	565,800	498 250
Minneapolis	376,700	778,064
Omaha	790,800	698,500
St. Paul	256,687	306,602
Kansas City	1,100,360	1,082,720
Denver	620,000	615,908
Indianapolis	620,000	598,709
Portland	520,000	523,600
Toledo	356,000	375,000
Des Moines	450,000	475,200
Duluth	291,749	317,068
Grand Rapids	400,000	406,300
Seattle	460,000	379,086
Tacoma	262,265	579,734
Los Angeles	1,350,665	1,758,209

The following table shows the total estimated cost of buildings for which permits were issued in thirteen principal Western cities during August of this year and of 1895:

	Aug., '95.	*Aug. '96.*
Chicago	$3,267,000	$1,852,650
Cincinnati	221,777	296,520
St. Louis	2,497,690	2,786,950
Pittsburg	231,314	560,800
Detroit	271,700	786,240
Minneapolis	341,620	267,918
Omaha	42,449	106,850
St. Paul	151,375	69,730
Denver	75,000	120,700
Indianapolis	205,749	276,917
Duluth	69,450	76,850
Kansas City	238,450	276,892
Los Angeles	462,955	296,274

Canals a Success.

The Suez canal, which has now been in operation for more than twenty-five years, was during the first year patronized by only 486 vessels, with a total net tonnage of 436 609. In 1880 the net tonnage was 3,057,421 and in 1890, 6,890,094. It is estimated that the tonnage for 1896 will be above 9,000,000. The total cost of the canal was about $100,000,000, or $1,000,000 a mile, and since then expenditures have been incurred for improvements amounting to some $40,000,000 more. But the enterprise is so profitable that it pays not only the fixed interest of 5 per cent on all its bonds, but from $4,000,000 to $5,000,000 a year in addition, as dividends to shareholders and bonuses to employes.

The Manchester ship canal has been in operation less than three years, during which trade conditions were none of the best, but it has nevertheless been a success. In its fifth half year the sea-going traffic amounted to 668,000 tons—an increase of more than 154 per cent compared with the figures for the first six months. There is every indication that the increase will continue, as the canal has saved Manchester merchants a great deal of money each year by reduced railway rates and lower charges of shipping firms at Liverpool. Thus we have two instances in which internal waterways became a decided success in spite of the predictions of failure that were so freely made.—American Manufacturer.

New Metals for Coins.

Advices from Washington, D. C., state that experiments with pure nickel and aluminum as substitutes for the present nickel pieces and one and two cent bronze pieces will be made at the mints by order of Director Preston shortly. A resolution was passed by the House of Representatives authorizing such experiments. There is some doubt whether the actual adoption of a new metal for the minor coins will be recommended at an early date by the treasury officials, even if the experiments prove successful. The objection to a change in any form of coins or notes is the disposition of the public to refuse the old forms and insist upon having the new. This would drive into the mints for recoinage $14,000,000 in nickel pieces, which are now in circulation, and $7,500,000 in pennies. The advantage claimed for pure nickel, instead of the alloy now used in five-cent pieces, is its greater hardness, durability and distinctness of impression.

A NUMBER of railroads in the United States are contemplating placing electric headlights on the locomotives in place of the present headlights, but Theodore N. Ely, chief of motive power of the Pennsylvania Railroad Company, in speaking of the use of the electric headlight, said that the Pennsylvania railroad experimented with this system several years ago, and while it gave an excellent light, it would not answer the requirements, as on a two-track or a four-track road the rays from the locomotive coming in an opposite direction were so strong as to blind the engineer, and it would be some time before he got over it. Mr. Ely also said that of late years they have been reducing the size of the headlights for the locomotives. They were formerly 30 inches, but are now 16. Headlight oil, he thought, was more reliable and cheaper.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR WEEK ENDING OCTOBER 6, 1896.

569,000.—CARD CASE—C. L. Adams, Orange, Cal.
569,078.—HEAD REST—J. A. Barker, Pasadena, Cal.
569,146.—WINDOW SASH—E. S. Barney, S. F.
568,890.—COLLAR PAD—C. Bartlett, Pomona, Cal.
568,892.—SHOE SOLE GROOVING MACHINE—G. Bryant, S. F.
568,942.—PLOW—J. Fouche, Visalia, Cal.
568,754.—SAW—J. E. Fox, Seattle, Wash.
568,902.—POWDER—F. A. Halsey, San Rafael, Cal.
568,852.—HEATER—Z. D. Johns, Visalia, Cal.
569,047.—PUMP—Lefebvre & Upton, Eureka Junction, Wash.
568,781.—CAN TILTER—H. C. Mahon, Junction City, Or.
568,954.—HEATING APPARATUS—G. L. Marble, Seattle, Wash.
568,913.—GOLD SEPARATOR—J. Marshall, Fairfield, Cal.
569,119.—STEP LADDER—T. J. McCormick, Pomona, Cal.
568,921.—FAUCET—Pokrantz & St. Hubert, S. F.
569,031.—TIGHTENER—T. Pusey, Stockton, Cal.
569,069.—QUARTZ MILL—F. P. Snow, Baker City, Or.
568,998.—KNIFE OPENER—A. C. Wecks, Alhambra, Cal.
568,934.—CRUDE OIL BURNER—D. C. Wilgus, Los Angeles, Cal.

NOTE.—Copies of U. S. and Foreign patents furnished by Dewey & Co. in the shortest time possible (by mail for telegraphic order). American and Foreign patents obtained, and general patent business for Pacific Coast inventors transacted with perfect security, at reasonable rates, and in the shortest possible time.

Electric Farming.

The agricultural department of the Cornell University recently published the results of some experiments extending over a period of six years, upon the effect of the light of the electric arc lamp upon the growth of plants. It was found as a result of these experiments that there was a decided beneficial influence on the growth of lettuce, and that there can no longer be any doubt as to its advantages in forcing this plant. With seed sown under ordinary conditions and the young plants placed under the influence of the light after they are well established, will show marked improvements up to a distance of forty feet. One curious thing was noticed, that the effect of the shadow of a beam or rafter cast by the electric light showed plainly on the leaves. It is stated in this report that a fancy truck farmer near Boston now uses the electric light in the commercial forcing of lettuce. He has three lamps of 2000-candle power each, which run all night. The hothouse covers nearly one-third of an acre. He finds that he obtains a gain of five days per crop during the winter, which makes a gain of three weeks for the three crops during the winter. The gain from one crop, he estimates, is sufficient to pay the expenses of operating the electric lights during the whole season.

Prof. Bailey states that he finds that many plants grow more rapidly when under the influence of the electric light at night. Among these are the daisy and the violet.

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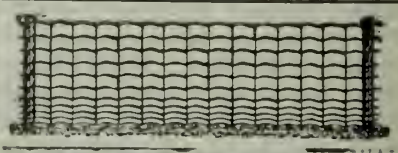

DOOR YARD HORSES

A name applied to such as put on style on short drives, but soon "peter out." Many of the three rod samples of wire fences shown at the fairs, are built on this plan. The strong spring works nicely, but when required to regulate 40 or 80 rods it falls. The only "long distance" regulator is made by

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

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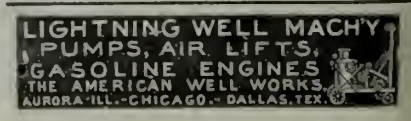

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Oct. 21, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	120,021	2,128,123	1,371,840
Wheat, ctls	270,635	4,323,514	2,870,159
Barley, ctls	88.118	2,551,752	1,384,936
Oats, ctls	16,150	179,176	225,316
Corn, ctls	3,876	43.250	32,351
Rye, ctls	11,570	22,516	12,216
Beans, sks	39,448	186,256	150.073
Potatoes, sks	23,766	330,734	332,307
Onions, sks	5,050	54,975	46,863
Hay, tons	3,120	61,871	60,120
Wool, bales	3,478	19,942	28,154
Hops, bales	1,022	3,689	4,850

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	7,168	1,682,444	934,123
Wheat, ctls	385,104	4,122,594	2,881,783
Barley, ctls	57,471	1,819,588	851,925
Oats, ctls	1,751	9,717	8,947
Corn, ctls	110	4,253	6,613
Beans, sks	25,490	88,590	88,548
Hay, bales	2,915	15,144	16,569
Wool, lbs	....	3,130,112	6,219,200
Hops, lbs	37,680	294,845	387,478
Honey, cases	2	802	4,123
Potatoes, pkgs	154	27,198	50,930

Grain Freights and Charters.

The market for deep-sea vessels has been in unsettled condition the past week and most of the time was wholly lacking in strength. There is always more or less of a struggle between ships and wheat as to which will take the lead. This time wheat is most emphatically on top, and it has been almost impossible to get exporters or speculators to name any reasonable figure for ships to arrive or for the few now here seeking engagement. Grain freights are consequently largely nominal and are certainly not quotable over £1 7s 6d for iron ships to Cork, U. K., for orders, usual option.

Charters.

Norwegian steamer Tiger, 2114 tons, wheat to St. Vincent for orders, to two ports; £1 6s 3d; also option of Calcutta—chartered prior to arrival.

British steamer Flintshire, 2400 tons, wheat to U. K., Havre, Antwerp or Dunkirk; £1 6s 3d—chartered prior to arrival.

British ship Queen Margaret, 1999 tons, wheat to U. K., Havre, Antwerp or Dunkirk; £1 7s 6d; direct port, £1 6s 3d—chartered prior to arrival.

British ship Eudora, 1938 tons, wheat to U. K., Havre, Antwerp or Dunkirk; £1 7s 6d, net—chartered prior to arrival.

British ship Manchester, 2851 tons, wheat to U. K., Havre, Antwerp or Dunkirk; £1 6s 9d, net—chartered prior to arrival.

British steamer Wennington Hall, 1885 tons, wheat to St. Vincent for orders; £1 6s 3d—chartered prior to arrival.

French bark General Mellinet, 1491 tons, wheat or barley to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d; direct port, £1 6s 3d; chartered prior to arrival.

French bark Jeanne d'Arc, 1148 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d; direct port, £1 6s 3d; chartered prior to arrival.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive.
1896	79,253	25,692	259,791
1895	57,783	12,513	314,821

Flour.

Further sharp advances have been made in flour values, in conformity with the radical advances established lately in prices of wheat. That flour will be soon again as cheap as during the past year is not probable. Prices for this commodity will certainly not strike very low levels during the balance of the current season. Spot supplies are not of large proportions.

Superfine, lower grades	$3 00@3 15
Superfine, good to choice	3 25@3 40
Country grades, extras	4 00@4 25
Choice and extra choice	4 40@4 65
Fancy brands, jobbing	4 75@4 87½
Oregon, Bakers' extra	4 00@4 25
Walla Walla, Bakers' extra	4 00@4 25

Wheat.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	5s 3½d@5s 4d.	7s 2d@7s 3d.
Freight rates,	—@27½s.	25@27½s.
Local market,	$0.95@97½	$1.40@1.45

The prices above are for spot lots of standard No. 1 California in Liverpool, and for good to choice shipping in this city.

Seldom has the wheat market displayed more excitement, or have values for this leading cereal moved more rapidly upward than during the past few weeks. Since last review some of the jumps upward, not only in the speculative field, but for the actual wheat, have been little short of phenomenal. The one discouraging feature of the new order of things is that so few producers will realize much of the improvement, having sold largely early in the season before any radical advance took place. It has been largely through speculative operations, rather than on account of legitimate demand, that much of the past week's advance has been effected, although there is no disguising the fact that wheat is in a strong position, in consequence of crop failure in India, a rather gloomy outlook for the coming crop in Australia, and a heavy shortage in this year's yield in continental Europe. Speculators on more than one occasion, while operating not only in wheat but in other staples, have pushed prices to points where they could not be legitimately maintained, entailing loss upon themslves, and what is still worse, seriously injuring the producer. It is to be hoped that such will not prove the case in this instance. Abnormally high values more than any other one cause lead to over-production, which in turn is certain sooner or later to be followed by a decline to unprofitable prices. Owing to the wild and fluctuating market experienced on Call Board, values for spot wheat have been most of the time poorly defined. No. 1 white, seller 1896, season's storage paid, which gives the seller the option of immediate delivery, sold on Call Board Monday at $1.51½@1.52. Tuesday the speculative market showed less strength, closing about 6c under extreme figures of previous day. Wednesday Liverpool was fairly steady, but there was a drop in Chicago of about three cents per bushel, owing to longs realizing. The local Call Board broke badly, Dec. dropping at noon session to $1.42¾ and May to $1.46¼. In the spot market there was little doing, owing to the unsettled condition of options, and spot values were not very clearly defined, still there was no special pressure observable to realize on actual wheat.

California Milling	$1 45	@1 50
Cal. No. 1 shipping, alongside	1 40	@1 45
Oregon Valley	1 40	@1 45
Walla Walla Blue Stem	1 35	@1 47½
Walla Walla Club	1 35	@1 35

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, $1.31⅝@1.55.

May, 1897, delivery, $1.33¾@1.58¼.

Wednesday, at regular noon session of Call Board, December wheat sold at $1.47@1.42¾; May, $1.50⅜@1.46¼.

Barley.

The volume of exports of this cereal was materially increased the current week by several vessels clearing for Europe with barley as whole or part cargo. The steamer Strathness, bound for London, took 5,838 tons Chevalier, valued at $130,000. There is little Chevalier now remaining in first hands. The market for the ordinary variety of Brewing and for Feed barley is ruling moderately firm, but the improvement in the same is insignificant compared with the rapid strides upward in wheat values. Choice Feed bad been selling to relatively better advantage than Brewing grades, much of the former having been lately taken for export. Market at the close showed a little easier tone at beginning of the week.

Feed, No. 1 to choice	77½@82½	
Feed, fair to good	75	@80
Brewing, No. 1 to choice new	82½@90	
Chevalier, No. 1 to choice	1 05@1 15	
Chevalier, No. 2	72½@90	

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, 86¾@90c; May, 1897, delivery, 93⅝@96½c.

Wednesday at regular noon session of the Call Board, December feed sold at 86¾@87c; May, 93¾@94c.

Oats.

Although arrivals for the week under review have been of fair volume, and larger than for a week or two preceding, offerings of nearly all descriptions have been light as compared with the demand, and market presented a firm tone. There have been virtually no offerings lately of desirable qualities of either Surprise or Grey oats.

White Oats, fancy feed	1 20	@1 25
White, good to choice	1 15	@1 20
White, poor to fair	1 00	@1 05
Gray, common to choice	1 05	@1 15
Milling	1 15	@1 20
Surprise, good to choice	1 15	@1 25
Black Russian	1 15	@1 25
Red	1 00	@1 05

Corn.

While the market for this cereal has presented a slightly firmer tone than last noted, accompanied with a little more inquiry, quotable values remain tolerably close to the figures last noted. There is fair prospect of export trade in this cereal being revived to some extent at an early day. Small Yellow is at present the firmest and highest, receiving benefit from the advance in wheat.

Large White, good to choice	85	@ 90
Large Yellow	87½@	92½
Small Yellow	97½@1	02½

Rye.

Market continues to incline in favor of sellers. More than is offering could be accommodated with custom at the prevailing rates.

Good to choice, new	1 07½@1	12½

Buckwheat.

Supplies in this center are light. There is a fair demand, and for lots of strictly choice quality full current figures could be readily realized.

Good to choice	1 15	@1 20
Silverskin	1 20	@1 25

Beans.

A New York circular of recent date gives the following review of the bean market, prices quoted therein being per bushel:

There has been a steady expansion of the home demand, which is usual at this season of year, and a good deal of stock has been taken for export. This has not only absorbed the moderate arrivals closely but has taken out much of previous accumulations, and the holdings here are now the lightest that they have been this season. There are some old beans back in the country, but the incoming crop in this State and Canada is some short of last year, and there is a very great shortage throughout the main producing sections of Europe. Farmers seem in no hurry to market the new beans, and the prospect of comparatively light offerings, with indications that exporters will continue to want stock, make a very firm feeling. Marrow have advanced steadily; at the close some lots are reaching $1 50, and it would be difficult to buy for less. Not enough new Marrow here as yet to determine values. Several lots of new Pea have sold at $1.25, and as there are not enough arriving to supply the trade, the best old are put in at the same price. Medium have kept about even with Pea. Exporters took all the White Kidney that they could get at $1.40. A good many Red Kidney have sold to shippers at $1.22½@1.25 f. o. b., and at the close it would be difficult to buy any choice lots below the latter figure. A few lots of new Reds went to the West Indies also. Turtle Soup are very scarce and firm. Yellow Eye steady. Stronger Western advices have made a little firmer holding of California Lima.

There have been tolerably heavy shipments outward by sea and rail, including several invoices to Europe. Trading on local account has been fairly active, speculative and otherwise. The market has ruled strong for most kinds, notably Pink, Bayo, Large and Small White, Butter and Pea beans. There has been also more firmness developed in the market for Limas, with holders less disposed to crowd offerings than at any previous date this season.

Pea, fair to good, 100 lbs	$1 40	@1 65
Small White, good to choice	1 50	@1 65
Lady Washington	1 40	@1 50
Butter, small	1 25	@1 40
Butter, large	1 50	@1 60
Pinks	1 40	@1 50
Bayos, good to choice	1 40	@1 50
Reds	1 15	@1 30
Red Kidneys	2 00	@1 25
Limas, good to choice	2 00	@2 20
Black-eye Beans	1 15	@1 30
Horse Beans	75	@ 90
Garbanzos, large	2 00	@2 25
Garbanzos, small	1 35	@1 60

Dried Peas.

There are not many offering of any description, and no pronounced inquiry at present. To secure choice of either Niles or Green peas extreme quotations, or possiby a little more, would have to be paid.

Green Peas, California	$1 35	@1 60
Niles Peas	1 20	@1 30

Wool.

There continues to be a good demand for bright and free Fall wools, with market for such stock firm at quotations. Not much desirable Spring wool remains unplaced, and it is mainly held for better prices. Some holders of Fall wool are out of the market for the time being, and are taking the chances of realizing a firmer or weaker market after the election. Heavy and defective fleeces are not receiving any special attention, and the outlook for this description is not encouraging.

SPRING.

Humboldt and Mendocino	—@—
Northern California free	—@—
Northern defective	—@—
San Joaquin Foothill, good to choice	—@—
San Joaquin, 12 months	—@—
San Joaquin and Southern, 6 months	—@—
Nevada, as to condition	7 @ 9
Oregon Valley, select	9½@11
Oregon Valley, low grade	8 @ 9½

FALL.

Northern California free	5½@ 7
Northern defective	4½@ 6
Middle Counties free	6 @ 6½
Middle counties defective	5½@ 6
San Joaquin and Southern	3½@ 5

Hops.

The following concerning the Eastern Hop market is from an acknowledged New York authority:

While the volume of business has not increased at all largely the market appears to be gradually working into better shape, especially on the higher grades of hops. It is now very generally conceded that the State crop as a whole will be poor; here and there a growth shows choice quality, but they are exceptional. Some inquiries are coming from across the water for our best hops and this is changing the feeling to one of firmness and confidence. It is quite certain that for strictly choice State or Pacific coast hops 10c would be paid here to-day, and it looks as if a fraction more might be obtained. Some fairly good to prime grades have changed hands at 8@9c and lower qualities would go for less. The offerings thus far have been unusually light, but more of the stock is now coming forward and larger business is expected. Buyers in the country have shown more interest of late and sales reported at 7@7½c for medium grade, 8c for quite a number of prime and 9c (in a few instances 9½c) for the finest quality. Some of our correspondents have criticized our estimate of the shortage in this State, to wit: 25 per cent, and have endeavored to show that the yield is not over one-half of last year. We have given the matter careful study this week and believe that the crop of the State will run close up to 90,000 bales, which will be between 25 and 33⅓ per cent short. New York dealers lean toward the former estimate. On the Pacific coast there has been a good demand and prices have advanced another ½c, with 7½c bid for some of the finest growths. German markets are higher and firm; both the quality and quantity were lowered by continuous rains at time of picking; it looks as if choice colory hops will be scarce. The English crop is not turning out as well as previously indicated and the London *Grocer* now estimates the yield at 400,000 cwt.

Small quantities have lately gone out to Australia and Europe. A sailing vessel clearing for London this week took about 175 bales of hops as part cargo. The inquiry is not active and is mainly for strictly choice, buyers as a rule being quite exacting as to quality. Little or no custom could be at present found for most ordinary qualities, even at lowest quotation below named.

Fair to choice, 1896 crop	5 @ 7½

Hay and Straw.

The firmness last noted on the better grades of hay has been followed by still further improvement. The market throughout presents a healthier tone than at any previous date since the current season opened. Prospects appear for prices continuing on a more profitable plane than lately experienced.

Wheat	8 00@11 00
Wheat and Oat	6 50@10 00
Oat	6 00@ 8 50
Barley	6 00@ 8 00
Clover	5 00@ 8 00
Stock Hay	4 50@ 5 50
Alfalfa, first cutting	4 50@ 5 50
Alfalfa, second cutting	6 00@ 7 00
Compressed	6 00@ 9 50
Straw, ₱ bale	35@ 45

Millstuffs.

Bran market has been fairly well stocked with offerings from Oregon and Washington and has not ruled particularly firm. The tendency on middlings has been in favor of seller. Rolled barley and milled corn have been held at tolerably firm figures.

Bran, ₱ ton	12 00@14 00
Middlings	16 00@18 50
Barley, Rolled	18 00@18 50
Cornmeal	20 50@21 00
Cracked Corn	21 00@21 50

Seeds.

There has been considerable business transacted in mustard seed the past week, and at generally firmer figures than had been prevailing. Advanced quotations are noted for both Yellow and Brown. Choice Trieste is difficult to secure. Flaxseed has remained without quotable change. Alfalfa is offering at rather low prices, and is not receiving much attention.

	Per ctl.
Mustard, Yellow	1 75@2 00
Mustard, Trieste Seed	2 75@3 00
Mustard, Wild Brown	2 00@2 50
Flax	1 35@1 50
	Per lb.
Canary	2½@2¾
Rape	2 @2½
Hemp	3¼@3½
Alfalfa, Utah	5¾@6¼

Bags and Bagging.

Nothing worthy of note transpiring in the grain bag market, as is generally the case at this particular time of year, it being too late for old and too early for new. In other bags and bagging there are no changes to note in quotable rates or the general tone of the market.

Grain bags, 22x36, spot	4¼@ 4½
Wool sacks, 4 lb	28 @—
Wool sacks, 3½ lb	26 @—
Gunnies	9 @—
Bean bags	4 @ 4¼
Fruit sacks, cotton	5½@ 7½

Hides, Pelts and Tallow.

The firmer figures last quoted for hides and

high grade tallow continue to be maintained. Pelts, horse hides, deer skins, etc., remain without quotable improvement.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @ 7	— @ 6
Medium Steers, 48 to 56 lbs	— @ 6	— @ 5
Light Steers, under 48 lbs	— @ 5	— @ 4
Heavy Cow Hides, over 50 lbs.	5 @ 5½	4 @ 4½
Light Cow Hides, under 50 lbs.	4½@ 5	3½@ 4
Wet Salted Kip	5 @ 5½	4 @ 4½
Wet Salted Veal	— @ 6	— @ 5
Wet Salted Calf	— @ 7	— @ 6
Dry Hides, round lots, 8@10c.	10 @10½	7½@ 8
Dry Kip and Veal, 11 to 16 lbs.	— @9	6½@ 7
Dry Calf, under 4 lbs	— @15	— @10
Horse Hides, large		75@1 00
Horse Hides, medium		50@ 75
Horse Hides, small		25@ 50
Colts' Hides		—@ 25
Pelts, long wool, per skin		50 @60
Pelts, medium, per skin		40 @50
Pelts, short wool, per skin		20 @35
Pelts, shearling, per skin		10 @15
Deer Skins, best summer		20 @25
Deer Skins, good medium		15 @20
Deer Skins, thin winter		7 @ 9
Elk Hides		7½@ 9
Tallow, good quality		2½@ 3
Tallow, No. 2		2 @—
Goat Skins, perfect		20 @35
Goat Skins, damaged		10 @20
Kid Skins		5 @—

Honey.

A sailing vessel clearing this week for London took 400 small cases, or about 10,000 pounds extracted honey. Business doing on local account is of light volume and mostly of a small jobbing character. Values continue steady at last quoted range.

White Comb, 1-lb frames	10 @—
Amber Comb	7½@ 9
Extracted, White Liquid	5 @ 5½
Extracted, Light Amber	4½@ 5
Amber Colored and Candied	3¾@ 4¼
Dark Tule	2¾@ 3

Beeswax.

Not much arriving or in stock. Demand which exists is mainly for choice to select. The quality must be A1 in every respect to command outside quotation.

Fair to choice, ℔ lb	24 @27

Live Stock and Meats.

The hog market has developed no decided changes since last issue, but for fat ones of medium size has been moderately firm at the quotations. Small hogs, although fat, are not inquired for. Feeders are not wanted. Beef and mutton market remains practically as before. Prices given on beef and mutton are wholesale rates from slaughterers:

Beef, 1st quality, dressed, net ℔ lb	5 @—
Beef, 2d quality	4 @ 4½
Beef, 3d quality	3½@—
Mutton—ewes, 4½@5c; wethers	5 @5½
Hogs, hard grain fed, medium size, fat	2⅞@ 3
Hogs, large hard	2⅞@ 3
Hogs, soft and feeders	— @—
Hogs, country dressed	3¾@—
Veal, small, ℔ lb	5 @ 6
Lamb, spring, ℔ lb	5½@ 6½

Poultry.

The market for most kinds of California and Oregon poultry continued in much the same unsatisfactory condition for the selling and producing interest as noted in previous issue. Most of the home product now arriving is so poor as to be undesirable, causing retailers to take Eastern in preference at higher figures. Large and fat poultry was scarce and wanted, and such was salable at an advance on quotations.

Turkeys, live hens, ℔ lb	12@ 13
Turkeys, live gobblers	13@ 14
Turkeys, large young	13@ 15
Hens, Cal., ℔ doz	4 00@5 00
Roosters, old	4 00@—
Roosters, young, (full-grown)	3 50@4 50
Fryers	2 75@3 25
Broilers, large	2 50@3 00
Broilers, small	2 25@2 50
Ducks, young, ℔ doz	3 00@4 50
Ducks, old	3 00@3 50
Geese, ℔ pair	1 25@1 50
Goslings, ℔ pair	1 50@1 75
Pigeons, Old, ℔ doz	1 00@1 25
Pigeons, Young	1 75@—

Butter.

Choice to select fresh continued in light supply, and in some instances slightly higher figures were realized than previous week, mainly for a few favorite brands of very superior quality, which were sought after by special custom. Seriously defective fresh had to sell down on a level with packed, and was not in urgent request at low figures. Stocks of packed are on the decrease, but offerings are proving ample for current requirements.

Creamery extras, ℔ lb	25 @—
Creamery firsts	23 @24
Creamery seconds	22 @23
Dairy select	22½@—
Dairy seconds	15 @17
Dairy, soft and weedy	— @—
Mixed store	11 @13
Creamery in tubs	15 @16
Pickled roll	15 @16
Dairy in tubs	14 @15
Firkin, Cal., choice to select	14 @15
Firkin, common to fair	11 @12½

Cheese.

New full cream, recently from the press and in every way select, is selling in a small way to good advantage, fancy qualities commanding from special custom 10@11c, but these figures are higher than are warranted as quotations. Other grades are in ample supply and values for the same are only steady.

California fancy flat, new	8½@ 9½
California, good to choice	7½@ 8½
California, fair to good	7 @ 8
California, "Young Americas"	8 @10

Eggs.

Arrivals from the interior of this State and from all Pacific coast points are of light volume, with every likelihood of so continuing for a month or more to come. Market for choice to select fresh is very firm, some extra large and uniformly white selling for an advance on top quotations. Eastern are arriving at the rate of four to five cars per week. These are also commanding better figures. In addition to above, there are fairly liberal supplies of cold storage eggs.

California, select, large white and fresh	35 @—
California, select, irregular color & size	27½@32½
California, good to choice store	22½@27½
California, common to fair store	18 @22
Oregon, prime	— @—
Eastern, as to section and grading	24 @28
Eastern, seconds	18 @20
Duck eggs	25 @—

Vegetables.

There have been no very pronounced changes in quotable values or the general condition of the vegetable market since last review. Onions are still offering freely at low figures. Tomatoes remain fairly plentiful, but the tendency on strictly choice has been to a little more firmness. Corn was in light receipt and will soon be out of season.

Asparagus, Fancy, ℔ box	—@— —
Asparagus, common to good, ℔ box	—@— —
Beans, String, ℔ sack	—@— —
Beans, Wax, ℔ lb	—@— —
Beans, Garden, ℔ lb	2½@ 3
Beans, Lima, ℔ lb	2@ 3
Cabbage, choice garden, ℔ 100	50@ 60
Cauliflower, ℔ doz	40@ 50
Corn, Alameda Sweet, ℔ crate	50@1 25
Corn, Berkeley, ℔ crate	40@ 65
Corn, Green, ℔ sack	—@— —
Corn, Vacaville and Winters, ℔ crate	—@— —
Cucumbers, Alameda, large box	20@ 35
Egg Plant, ℔ box	25@ 40
Garlic, ℔ lb	1½@ 2
Okra, Green, ℔ box	40@ 75
Onions, Red, ℔ cental	—@—
Onions, Yellow, good to choice	25@ 30
Peas, Green, ℔ sack	1 00@1 25
Peppers, Green Chile, ℔ box	25@ 50
Pepper, Bell, ℔ large box	40@ 50
Pickles, No. 1, ℔ 100 lbs	—@— —
Pickles, No. 2, ℔ 100 lbs	—@— —
Rhubarb, ℔ box	—@—
Squash, Summer, ℔ large box	40@ 50
Squash, Cream, ℔ box	20@ 35
Tomatoes, River, per large box	—@—
Tomatoes, Bay, ℔ box	10@ 30

Potatoes.

Although supplies of ordinary qualities are less excessive than a few weeks ago, prices remain without quotable improvement. Choice to fancy Burbanks are being quite steadily held and are in fair request. Oregon Burbanks were again on market this week, but hardly in sufficient quantity to warrant quoting. Sweets were in fair supply, prices ruling about as last quoted.

IN SACKS

Early Rose, River, ℔ cental	20@ 30
Peerless, River	—@ —
Reds, River	35@ 50
Garnet Chile, Mission	40@ 50
Burbanks, River	20@ 35
Burbanks, Salinas	60@ 90
Burbanks, Oregon	50@ 75
Sweet Potatoes	1 00@1 25

The Fruit Market.

Fresh Fruits.

The variety of fresh fruits in market is narrowing steadily to smaller compass as the season advances. The market for most kinds has been rather favorable to the selling interest, especially for the more desirable qualities, table grapes proving about the only noteworthy exception.

Receipts of table grapes of nearly every variety were larger than was justified by the demand. While there were fairly liberal offerings of excellent quality there was a considerable quantity showing very ordinary condition, and it would have been better for the producer if these had not been forwarded. By sending lighter quantities and being more careful as to quality, the grower would realize more, not only per box, but also for the gross amount, than be now obtains on the larger quantity. Wine grapes were not in excessive receipt, and sold in bulk to fully as good advantage as the preceding week.

Apples were next on the list in the matter of prominence, being in fairly liberal supply and receiving considerable attention from the retail and jobbing trade. Choice to select, such as fine Spitzenberg or fancy Bellflower, were not plentiful and brought tolerably good prices, the Spitzenberg variety, as is invariably the case, selling for the highest figure, owing to its better keeping qualities, besides being a general favorite. Apples of inferior quality were in poor request at low prices.

Pears of the late varieties made a fair display as to quantity, but there were few sufficiently select to draw forth any special competition from buyers. Winter Nelis are now coming into favor and will take the lead during the balance of the season.

Peaches are in light supply and bid fair to be soon wholly out of the market. For attractive qualities decidedly good prices are being realized.

Pomegranates are offering in only limited quantity, but there is not much inquiry for this fruit.

Quinces are scarce and salable to fair advantage.

Berries of all kinds now represented are in light receipt and are bringing generally improved figures, although values are still far from being what could be termed high.

Apples, fancy, 4-tier, per box	1 00@ 1 25
Apples, good to choice, 50-lb box	75@ 90
Apples, fair to good, 50-lb box	50@ 75
Apples, common, ℔ 50-lb box	25@ 40
Crabapples, ℔ box	—@ —
Figs, Black, ℔ 2-tier 15-lb box	—@— —
Figs, Black, ℔ 1-tier box	—@— —
Figs, White, ℔ box	—@ —
Nectarines, Red, ℔ box	—@ —
Nectarines, White, ℔ box	—@ —
Prunes, Falkenburg, ℔ crate	—@ —
Prunes, Hungarian, ℔ box	—@ —
Prunes, German, ℔ 50-lb box	—@ —
Peaches, fancy wrapped, ℔ box	1 25@ 1 50
Peaches, Freestone, ℔ ton	—@— —
Peaches, good to choice, ℔ box	75@ 1 25
Peaches, Cling, per ton	—@— —
Pears, Bartlett, ℔ ton	—@— —
Pears, Bartlett, No. 1, per box	1 25@ 1 50
Pears, Winter Nelis, per box	40@ 1 00
Pears, other kinds, ℔ box	20@ 65
Plums, choice, large, ℔ box	—@ —
Plums, other kinds, lb box	—@ —
Plums, ℔ crate	—@ —
Pomegranates, ℔ box	40@ 75
Quinces, ℔ box	75@ 1 00
Nutmeg melons, ℔ box	40@ 75
Cantaloupes, per crate	50@ 1 25

Berries.

Blackberries, ℔ chest	5 00@ 6 00
Currants, Red, ℔ chest	— —@— —
Raspberries, ℔ chest	4 00@ 6 00
Strawberries, Longworth, ℔ chest	— —@— —
Strawberries, Large, ℔ chest	4 00@ 5 00
Whortleberries, ℔ lb	10@ 12½

Grapes.

Black Hamburg, ℔ box	20@ 35
Cornichon, ℔ box	30@ 40
Fontainebleau, Cal., per crate	—@ —
Fontainebleau, Cal., per box	—@ —
Isabella, ℔ box	50@ 75
Muscat, per box	20@ 35
Muscat, ℔ crate	30@ 40
Muscat, ℔ ton	10 00@12 00
Mission, per ton	17 00@20 00
Rose of Peru, ℔ box	20@ 35
Rose of Peru, ℔ crate	30@ 40
Royal Isabella, ℔ crate	1 00@ 1 25
Seedless Sultana, ℔ box	—@ —
Tokay, ℔ crate	30@ 45
Zinfandel, ℔ ton	20 00@25 00

Dried Fruit.

New York advices by mail give the following resume of the Eastern dried fruit market:

Increasing supplies of evaporated apples have kept the market easy. Exporters have accepted quite a number of carloads that were tendered them on early contracts, and the general quality has been so good that nearly all lots have passed inspection. The smaller shipments that have come along for sale have been of more irregular quality and had to go in a wide range of prices. Poor to fairly good fruit has dragged at 2½@3¾c; round lots of prime have brought 4c generally, some jobbing sales of high grade at 4⅛@4¼c. It is said that choice lots have been offered for later shipment at 4¼c, but the lowest rates for spot goods have been 4⅜@4½c, and up to 4¾c is paid in a smallish way for very choice. Average fancy apples sell at 5@5¼c, and a very few extra fancy at 5½c. There seems to be a disposition to keep the goods moving. Old evaporated entirely neglected. A few small jobbing sales of Southern sun-dried sliced apples are making at 2½@3½c. Coarse cut are offering by sample at 2¼@2½c for best Southern in shipping order, and 3@3¼c for fine Western and State. Canadian makers are talking 3½c for choice, but 3¼@3⅛c is the best that buyers will do at present. Chops have further weakened; last sale at $1.55 for prime bleached ready for shipment. Cores and skins held a little firmer; rounds lots of heavy packed might bring 1⅜c, but small lots or bag stock sell at 1c. Hardly enough doing in peaches to establish values. Raspberries have advanced ½c and close rather firm. Cherries also selling better; sales of choice dry new fruit at 10c. Huckleberries dull and weak. Blackberries slow but steady. Apricots are still selling well. California peaches in steady, fair demand. Prunes have had numerous jobbing sales at 5¼c for 60s, up to 7@7¼c for 40s.

The local dried fruit market has been in the main ruling decidedly favorable to the producing interest since last review. The demand, which has been mainly on Eastern and local account, has been active and for most kinds advanced figures have been current. Eastern buyers have been holding off as much as possible, probably anticipating consignments on commission, but in this they have been disappointed and now they are coming into the market, eager to purchase, after stocks have been considerably reduced by shipments to Europe and Australia. The season's output of dried fruit in this State is materially below that of recent years, and that remaining stocks will meet with a good market seems now fully assured.

Apricots are proving an exception to the rule, meeting with less inquiry than earlier in the season, but offerings are not numerous nor very heavy in the aggregate. Some bleached of fair quality were sold at 7c, and fairly good changed hands at 8c. Moorparks of good quality went at 10c in boxes, the equivalent of 9½c in sacks. Some fancy Moorparks were offered down to 11½c, but for most holdings of this description higher figures are asked.

Pears are being very steadily held, with only limited spot stocks of desirable qualities. Apple market is firmer for evaporated in boxes and for sun-dried quartered in sacks.

Prune market is firm at the late advance, with a very fair demand and sellers not numerous. Some producers are holding out of the market for the present, anticipating better prices later on. For the four sizes 3½@4c are now the current figures, with 40-50s quotable at 5¾@6c and 50-60s at 4¾@5c.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	7½@ 8
Apricots, Royal, fancy	9 @10
Apricots, Moorpark	10 @12½
Apples, in boxes	5½@ 6
Nectarines, White	4½@ 5
Nectarines, Red	3½@ 4
Peaches, unpeeled, prime to choice	4½@ 5½
Peaches, unpeeled, choice to fancy	5½@ 7
Peaches, peeled, in boxes	10 @11
Pears, peeled and sliced	4 @ —
Pears, unpeeled Bartletts, halved, fancy	6 @ 7
Pears, halved, unpeeled Bartletts	4 @ 5
Pears, quartered, unpeeled Bartletts	4 @ 5
Plums, pitted	3½@ 5
Prunes, in sacks, 4 sizes	3½@ 4
Prunes, in sacks, small sizes	2½@ 3¼
Prunes, Oregon Silver	7½@ 8

COMMON SUN-DRIED.

Apricots, ordinary	5½@ 7
Apples, sliced	2½@ 3
Apples, quartered	2¾@ 3¼
Figs, Black	2½@ 3
Figs, White	3 @ 4
Plums, unpitted	1½@ 2

Raisins.

This market has developed additional strength under light offerings and a good demand. Quotations for all grades show a further advance. Prices given are for carload lots, Fresno delivery. Prices in this center are half a cent per lb. higher than below quoted. The weather in the leading raisin

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FRESNO DELIVERY, F. O. B.

Imperial Clusters, per box	2 75@— —
Dehesa Clusters, per box	2 00@ 2 25
Fancy Clusters, per box	1 50@ 1 60
Boxes, London layers, 20-lb box	1 10@— —
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ℔ lb	5 @ —
Loose Muscatel, 3-crown	4 @ —
Loose Muscatel, 2-crown	3 @ —
Sultanas	5½@5¾
Seedless Muscatel	3½@4

Citrus Fruit.

Lemon market is fairly stocked, with the demand for this fruit not particularly active at present. Quotable values remain practically as last noted. For common qualities and undesirable sizes, sellers find it difficult to realize satisfactory figures. Limes are offering in moderate quantity and at easier rates than last quoted, the inquiry for them being of a rather slow order.

Oranges—Wash. Navels, ℔ box	— —@— —
Cal. Mediterranean Sweet	— —@— —
Cal. Seedlings	— —@— —
Cal. Valencias	— —@— —
Grape Fruit, ℔ case	— —@— —
Lemons—Cal., select, ℔ box	2 50@ 3 00
Cal., good to choice	1 50@ 2 00
Cal., common to good	1 00@ 1 50
Limes—Mexican, ℔ box	5 00@— —
Cal., small box	1 00@ 1 25

Nuts.

Almonds of the soft and paper shell varieties are in good request, and the market for desirable qualities is ruling firm. Some deliveries are being rejected on account of the fruit having been picked before the nut was thoroughly ripe. In other cases the nut has been too strongly sulphured to make it desirable, the sulphur destroying the almond flavor. White walnuts are in only light supply, and values for the better grades are being well sustained at the range of prices last quoted.

California Almonds, paper shell	9½@10
California Almonds, soft shell	7½@ 8
California Almonds, standard	6½@ 7
California Almonds, hard shell	5 @ 5½
Walnuts White, paper shell	9 @10
Walnuts White, soft shell	8 @ 8½
Walnuts White, Cal., hard shell	6½@ 7
Chestnuts, Cal. Italian	8 @10
Peanuts, Cal., fair to prime	4 @ 5
Peanuts, Eastern hand-picked	5 @ 6
Pine Nuts	12½@15

California Fruit Sales.

CHICAGO, October 14.—California fruit sold today as follows: Pears—Winter Seckles, $1.75 per half-box; Winter Nells, $1.05; Bartlett, 70c, and for boxes $1.30. Grapes—Muscats, $1.20@1 35 per single crate; Cornichons, $1.15; Tokay, 75c@$1.05. Peaches—Salway, $1.20 per box.

NEW YORK, October 14.—California fruit sold today as follows: Grapes—Cornichon, $2@2.10 per crate; half-crates, $1.10@1.20; Tokay, $1.40@2.15 per crate; half-crates, 65c@$1.25; Malaga, $1.40. Pears—Barry, $2.10; Beurre Rose, $1.90.

NEW YORK, October 15.—California fruit sold today as follows: Grapes—Tokay, $1.60@2.90 per crate; half-crate, 55c@$1.15.

CHICAGO, October 15.—California fruit sold to-day as follows: Pears—Winter Nelis, $1.75 per box; Bartletts, $1.40 per box and 75c per half-box; Clapp's Favorites, 70c per half-box. Grapes—Muscats, $1.05@1.25 per single crate; Tokay, $1@1.25; Cornichons, 75c@$1.20; Emperors, 80@95c.

NEW YORK, October 16.—California fruit sold today as follows: Grapes—Tokay, $2.15 per double crate and 80c@$1.50 per single; Muscats, 90c@$2.45 per single crate; assorted, 95@$1.55; Black Morocco, 95c@$1.40.

CHICAGO, October 16.—California fruit sold today as follows: Pears—Beurre Clairgeaus, $1.40 per box. Peaches, $1.25 per box. Grapes—Cornichons, $1.10 per single crate; Muscat, 60c@$1.15; Tokay, 65c@$1.10; Black Morocco, 60c@$1.05; Black Ferreras, 55c.

CHICAGO, October 19.—California fruit sold to day as follows: Grapes—Muscat $1.75@$2.80 per crate; half-crates, $1.10@1.50; some in bad order brought less; Tokays, $1.25; Malaga, $1.15@1.30; Cornichon, $1.35@$1.55.

NEW YORK, October 19.—California fruit sold today as follows: Pears—Glout Morceau, $1.35@2.50; Doy du Comice, $1.75@2; Eastern Beurre, 75c@$1.95; Winter Nelis, $1.30@1.80; Vicars, $1.10@1.70; other varieties, $1.10@1.25. Grapes—Muscat, $1.20@1.75 per single crate; Tokay, 70c@1.75; Black Morocco, $1.50; Assorted, $1.35@1.45; Emperors, $1.05. Plums—Coe's Late Red, $1.10@1.15 per half-crate and 45@65c per box.

NEW YORK, October 20.—California fruit sold today as follows: Pears—Glout Morceau, $3 per box; Buerre Diels, $1.10@1.25; other varieties, 90c@$1.05. Plums—Coe's late red, $1.50 per half crate and 40@50c per small box. Quinces—$1.10@1.40 per box. Grapes—Tokays, $1.85@2.15 double crate and 90c@$1.15 single; Muscats, 90c@$1.

CHICAGO, October 20.—California fruit sold today as follows: Grapes—Tokay, $2.25 double crate and 95c@$1.30 single; Muscats, $2 30 double crate and 90@95c single crate; Cornichons, $1.60 Pears—Bartletts, $1.35@1.40 per box and 60@70c half box.

A Cure for Spavins.

Read the following letter and you will learn of one:

Dr. S. A. Tuttle.—DEAR SIR: I have used your elixir on one of the worst spavins that I ever saw on a horse, and it entirely cured the lameness. I also used it for rheumatism in my family with just as good a result, and will cheerfully recommend it to any one in want of a liniment. O. B. GOVE.
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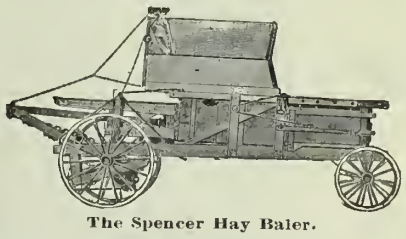
ACCORDING to the London *Daily News* M. Kildischewsky, a Russian electrician, has discovered an improvement in the telephone, by the use of which distance has no effect upon the hearing. In a recent experiment between Moscow and Rostoff, on the Don, a distance of 890 miles, talking, music and singing were heard with perfect distinctness. An ordinary telegraph wire was used. It was said that M. Kildischewsky will go to London to experiment with his improvement on the Atlantic cables between London and New York.



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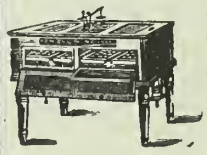
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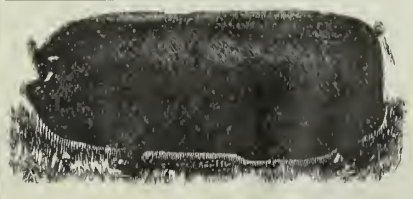
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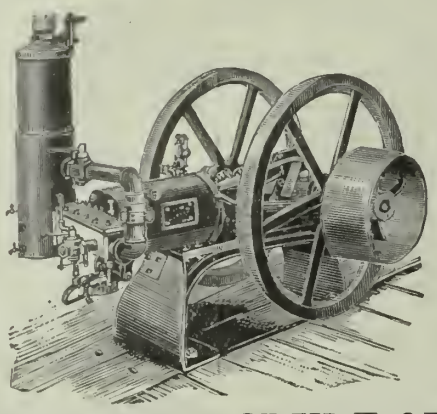

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Will furnish power for one-tenth of a cent per horse power per hour. It is the cheapest power ever produced, as shown in the following table, and which is based upon a test of ten hours' run with one of our five-horse power Gasoline Engines, using gasoline (74°), coal gas, common domestic coal oil, crude petroleum, asphaltum base, crude petroleum, paraffine base, as follows:

Coal Gas, ten hours' run, 1000 feet	$2 00
Gasoline (74 deg.), ten hours' run, 8¾ gallons @ 14c.	1 25
Coal Oil, ten hours' run, 7½ gallons @ 10c.	75
Crude Petroleum, asphaltum base, 16 gallons @ 3c	48
Crude Petroleum (36 deg.), paraffine base, 13 gallons @ 5c	65

On the crude petroleum with asphaltum base we had an over-product of 7 gallons of asphaltum; the market price is 3 cents per gallon=21 cents. This deducted from the first cost of the crude petroleum for ten hours' run leaves a net balance of 27 cents. And from the crude oil with a paraffine base we had an over-product of 3 gallons of good lubricating oil, which we consider equal to any we have ever used, but will estimate its value conservatively at 20 cents per gallon, making 60 cents; this deducted from the first cost of the crude oil leaves a balance of 5 cents, total cost of running ten hours.

It will be readily seen that the operation of these Engines with crude petroleum reduces the cost of operation to a minimum. Crude petroleum with paraffine base at 1-10c per horse power per hour; on crude petroleum, asphaltum base, ¼c per horse power per hour; on domestic coal oil, 1½c per horse power per hour; and on gasoline, 2½c per horse power per hour.

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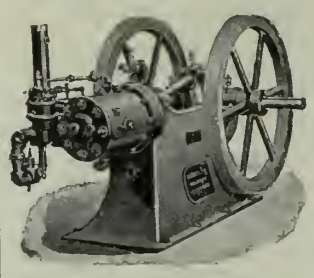

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Some manufacturers are making astounding statements of the economy of their crude oil gas engines, the great saving claimed being based on the very peculiar assumption that the refuse fuel has a ready market value and that each and every customer will place this refuse, or so-called asphaltum or lubricating (?) oil on the market—in fact, start up a retail asphaltum and lubricating oil business. Such a proposition will hardly appeal to common sense. The economy claimed in using paraffine oil is equally misleading. **Just bear in mind the indisputable fact that there is no paraffine base oil produced west of the Mississippi.** Some California crude oil contains paraffine in small quantities, but the base of such oils and all other California oils is asphaltum, without exception. Oil producers and refiners claim, and they ought to know, that less than 40 per cent of crude oil is capable of being transformed by heat into gas; consequently 60 per cent must be refuse, if used in gas engines.

Now, if you were using coal for steam purposes, which would you buy, clean coal at $6.00 per ton or coal which was 60 per cent stones and slate at $3.00 per ton, even if you could sell a load of stones, say for ballast, once in a while? We admit that gas engines will run on crude oil after a fashion, but the asphaltum cuts the cylinder, gums the valves and causes no end of trouble; besides the power obtained is much less, and **consequently you have to buy a larger engine than necessary—one-third larger.** Distillate oil is a product of asphaltum base—California crude oil—the distillate being obtained by evaporation, clean and clear without a trace of asphaltum in it. The price is only from 6½c to 9c per gallon, and every drop is fuel. No "**retail asphaltum or oil business**" about distillate; and

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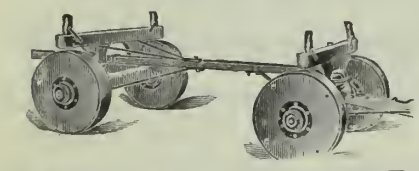

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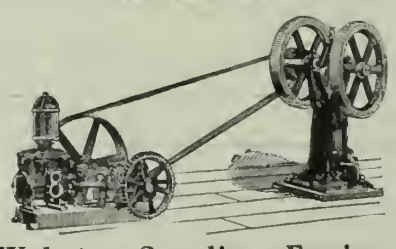

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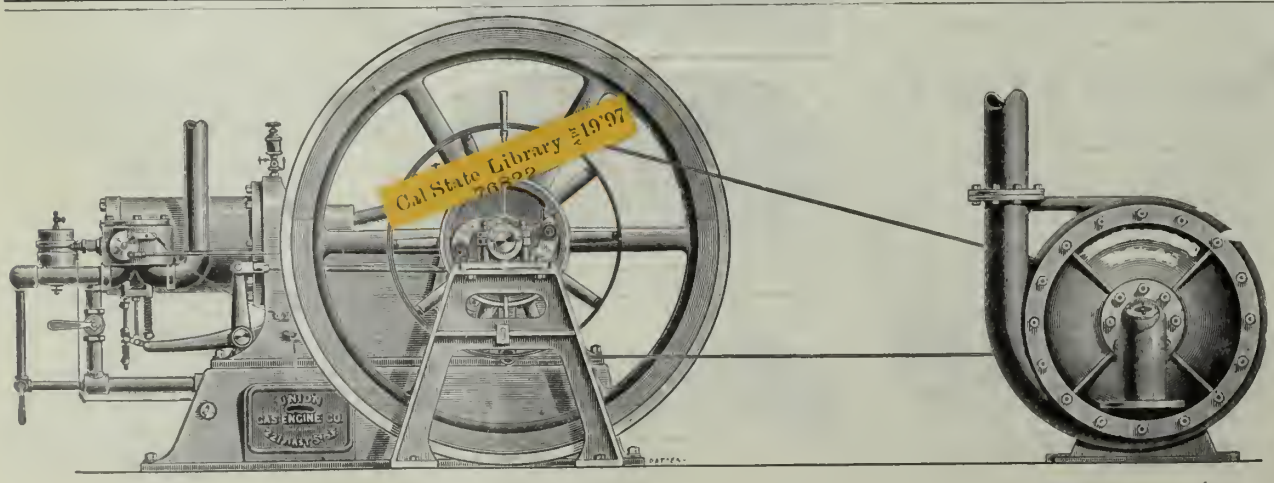

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THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LII. No. 18. SAN FRANCISCO, SATURDAY, OCTOBER 31, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.

This Paper is to be taken from the Library.

Two More Eucalypts.

We present on this page two eucalypts which have distinct characteristics as well as marked merit. The first is the "Yate"—*Eucalyptus cornuta*—which takes its specific name *cornuta* from the long horn-like cap of the seed vessel which the photograph clearly shows. The bunch of seed vessels fairly bristles with these extensions and resembles the spiked mace with which old-time warriors used to crush through an opponent's armor. In his volume on the Eucalyptus, whence we draw our illustrations, Mr. Abbot Kinney describes the Yate as a very attractive and graceful tree. Its foilage is greener than that of the blue gum and tends to persist in the round or oblong form of the leaf. It is a rapid grower and resists drouth on light soil better than the common blue gum, and is in fact one of the hardiest and fastest growing eucalypts. The bark is a pleasant light drab color and nearly smooth. The tree grows tall and makes good timber. It is bowered low in its branching and is not very well suited for a roadside tree, though it may be effectively used in combination with other species. Mr. Kinney planted about a mile of road at Santa Monica with *cornuta* between two rows of *globulus* and the effect is attractive. It strikes us that this low branching of *cornuta*, with the stemmy blue gum, might be effective as a wind-breaking combination. Although it does branch low the Yate makes a large, handsome tree and plenty of foliage. Its bloom is handsome and is described by Mr. Kinney as having flowers so large and close in the umbel that the umbel looks like a large single pompon flower of delicate light green or straw color.

The other engraving shows the foliage and fruit of *Eucalyptus maculata* variety *citriodora*, or, as it has always gone in this State, *Eucalyptus citriodora*. This tree departs sharply from the habit of many of its genus, for it uses lemon perfumery instead of the pungent eucalyptol. The *citriodora* was introduced to the State many years ago, and at least fifteen years ago was distributed to some extent from the State University.

It was at first thought very tender, but fortunately it has proved hardier than early observations indicated. Mr. Kinney has large specimens upon his own place at Lamanda Park, and there are fine old trees on the grounds of Ellwood Cooper near Santa Barbara. Mr. Kinney speaks of the tree as a rapid grower. He says he planted a *citriodora* in an old clump of trees in the garden to secure its fragrant leaves. It grew so fast that it soon passed beyond hand reach, and then out of ordinary ladder reach. It is now about 60 feet to the first limb. The stem is straight, smooth and of a warm grey color, with a smallish head of sickle-shaped branchlets that respond to the slightest breeze. The tree now stands to its surrounding clump as a steeple does to a church.

EUCALYPTUS MACULATA—VARIETY CITRIODORA.

EUCALYPTUS CORNUTA.

The Mohair Revival.

The sharp improvement in mohair, to which we have made frequent allusion in the RURAL, continues to exhibit signs of width and endurance. It will be very significant to California for our conditions for the production of the finest mohair are unsurpassed, and the wealth which can be realized from the product, if the demand endures, will be a clean addition to our other sources of revenue. It will displace no other product to make a million dollars worth of mohair in California. In one respect the goat is like the bee—both gather wealth from waste mountain lands, and constitute a clear gain to the State. The goat cannot be handled with the best results on the dusty, burry plains, but on mountain pastures with good browsing he is as good as if in clover.

We have already given the facts about the decision of the Bradford weavers about California mohair, but Col. Bailey of San Jose has kept pressing forward samples for their judgment until at present they do not seem to be able to find words to compliment the product with. An item in another column of this issue shows this fact. Other accounts state that the sample is pronounced remarkably free from kemp, and light in weight of noils—thus leaving great weight in clean long staple. The fleece is said to be as good mohair as was ever grown. Of course it will be understood that these comments are made upon hair which is from highly graded Angoras.

PACIFIC RURAL PRESS.

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Our latest forms go to press Wednesday evening.

Registered at S. F. Postoffice as second-class mail matter.

ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, October 31, 1896.

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The Week.

Weather and Crops.

There has been a wide-reaching and, in most parts, a deep-soaking rain, which has been warmly welcomed by all, except those who had drying fruit exposed, and most of these had time to stack their trays before the clouds really got down to business. In many places the moisture is now adequate to support future growth for some time and to start the plows on cultivated lands. There will be a disposition to make every acre produce something this year and an early wetting is an immense help toward such an end.

The following data for the week ending 5 A. M. Wednesday, Oct. 28, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	.88	2.02	3.30	3.75	64	42
Red Bluff	.60	1.77	1.92	2.04	82	46
Sacramento	*	*	1.30	1.18	*	*
San Francisco	1.48	2.14	.89	1.32	76	49
Fresno	1.28	1.54	.23	.70	84	44
San Luis Obispo	1.44	1.68	1.78	*	80	40
Los Angeles	.28	.36	.23	.92	74	46
San Diego	.88	.94	.27	.65	68	54
Yuma	.06	.58	.16	.88	90	50

* Indicates no record.

Other advices indicate rather heavier rainfall than the official table above. Los Angeles claims 1.29 inches and Orange 1.99 inches; Riverside 1.50 inches, San Jose 1.68, and so on—good working amounts of water all around. We judge the Sacramento observer has gone into astronomy, as his place in the table has had more stars than figures for some time back.

Few Consignments of Fruit Sent East.

A New York dispatch of Tuesday thus gives the Eastern view of the consignment system:

NEW YORK, October 27.—The members of the dried-fruit trade are much gratified over the marked decrease that has been apparent this season in the extent to which dried fruits have been shipped from the Pacific coast to Eastern markets on consignments. The practice of consigning dried fruits was inaugurated several years ago, when, on account of the unusually large crops, shippers on the coast could not find a ready market for the whole of their product. As a result, in their eagerness to realize on their stocks, they began to consign car lots to almost every interior local market of any consequence. This practice which became more extensive in recent years, not only made serious inroads upon the trade of New York jobbing houses who were previously distributors for a large territory in Eastern States, but also unsettled prices quite generally, especially as the consignments were often made indiscriminately, without regard to the demands of the local market.

The trade in raisins suffered most severely, it is said, but other fruits were also affected. This season, however, according to local dealers, there have been practically no consignments of raisins, and those of other fruits have been much restricted. The principal reason for this improvement is said to be the large shortage in crops this year. According to members of the trade in this city, the crop of raisins in California this year is nearly 50 per cent short, and this with a lighter yield than usual in Spain has enabled shippers on the coast to dispose of their goods on orders, thereby avoiding the necessity of consigning. The condition of the money market has also had its effect, it is said, as, on account of the stringency, shippers in California who might otherwise have made consignments could not secure advances on their shipments.

The general impression seems to be that the change will not be permanent, but that as soon as the supply again exceeds the demand consignments will be renewed. Others, however, urge that the shippers themselves have lost heavily on their consignments, and believe the experience of the past few years will result in a material restriction of the practice in the future.

Santa Clara Valley Dried Fruits at Hamburg.

The fruit growers of Santa Clara county are planning to make a great county exhibit at the horticultural exposition to be held in Hamburg next May. This was determined at a meeting held last Saturday; and the matter was put into the hands of a committee composed of R. W. Hersey, G. W. Bowman, J. H. Flickinger, W. H. Wright, F. C. Beasley, Bozo Radovich and T. R. Weaver. Col. Bendel of San Francisco, who is about to visit Germany, will be commissioned to arrange for space with the management of the exposition. It is understood, also, that Col. Bendel will arrange for a California wine exhibit.

During the current season about fifty carloads of dried fruit have been shipped to Hamburg from the Santa Clara valley alone.

A Fraud Harmful to California.

The practice on the part of dishonest fruit packers to work off inferior stuff under California brands has come to be a very serious evil. The following extract from a letter written by a Nashville fruit dealer to a California house shows how the thing is done:

I find all through the South these disreputable Baltimore packers are putting in car after car of "slush" peaches at 65 cents to 75 per dozen under California labels, and I feel that some effort should be made to restrain them, else it will ruin the California canned-fruit business in the South. The poor ignorant people who buy this "stuff" suppose they are getting California fruits, and, disappointed, next time they will buy Baltimore fruits, which will naturally appear better to them than the California article, so-called. I think Californians should have a law passed through Congress making it a crime to label goods representing them to be packed in one State while actually packed in another. Certain it is, if something is not done an irreparable damage will be done to the California canned-fruit business throughout the entire Southern States.

The San Francisco Fruit Exchange has taken hold of the matter, and proposes to find out if there is a way to put a stop to it. Attorneys have been engaged and whenever instances of fraud are discovered they will be prosecuted.

English Dispatches on the Wheat Situation.

The past week has seen somewhat of a decline from the speculative figures in the wheat market, the quotations to-day (Wednesday) being almost 10 cents per cental off from those of one week ago. The quotation for No. 1 shipping stands, as we write, at $1.30@1.35; and while there is little doing, the market may be said to be firm at those figures. In the speculative market there is a little reaction toward higher prices for options, due to reports of active and advancing markets in Chicago and London.

Everything goes to prove that the recent advance is a genuine one, and that it is bound to hold for the present season at least, and probably for an indefinite time. A London telegram of the 25th inst. (Sunday) says:

The financial and economic journals of London express the belief that while there probably will be even further reaction in the price of wheat, all statistics available point to much higher prices than for years back being maintained. Both India and Australia, which hitherto have exported wheat, are now importing it, and the Indian famine seems to grow more severe, while the failure of the Russian crop seems most disastrous. "There is," says one authority, "an extraordinary holding aloof of Russian sellers." The prohibition of exporting of Russian wheat in 1891 is recalled as perhaps being enforced again now, though privately. "The Argentine crop," continues this same authority, "which is reaped in December, is fairly well spoken off, but it is not safe yet, and in any case Argentine supplies cannot have the same effect as when the gold premium was between 250 and 300 per cent, which was the case in 1893 and 1894. The present premium is, in fact, 178, against 230 per cent at this time last year and 253 per cent in 1894. This difference in premium represents about 5 shillings per quarter on wheat. The question how much India in consequence of the famine will require to import has yet to be determined.

In fact, not since the general European war preceding 1815 has there been in such a short period so great and sudden a rise in the price of wheat, and it is noted that the upward movement began in Europe, showing it could not be in any way a political maneuver in the United States. On the other hand, inquiries made among individual exporters on the London Corn Exchange to-day elicited a very general concurrence in the opinion that the recent jump in the price of wheat was excessive and that a healthy trading basis will not be reached until it has fallen a couple of points below the present figure. The tendency of the London market always is to minimize the importance of such advances, and it is averred the possible failure of the crop in the Punjab is already discounted.

The apparent Russian shortage, according to the bears in wheat, will be neutralized by the increase in the autumn shipments from the United States of nearly 2,000,000 quarters and from the Danubian provinces of nearly 1,300,000, which in addition, covers the shortage from Argentina to date.

A later London dispatch (Tuesday) says:

A reporter of the *World* had a conversation with Mr. Rush, the editor of *Beerbohm's Corn Trade List*, the standard authority on the market. Mr. Rush, who had just left the Corn Exchange, where he had ascertained the views of all the leading men in the trade, said: "This rise, almost for the first time on record, originated here, not in America. Its cause is that after several years of abundance the people now recognize that this year is one of ordinary supply. Owing to the previous abundance everybody held aloof from buying and stocks ran down. Besides, the Australian crop is pretty certain to be a failure, and there is the extraordinary fact that India has become for the nonce, though to a small extent, an importer. These things caused the recent advance in prices. The trade always goes to extremes to start with. A reaction that has occurred was to have been expected, but the cause of the advance remains. The men of the most experience in the London market believe that wheat is going to rule at 35s ($8.75) a quarter (eight bushels in a quarter), because it is now realized in addition to the other reasons I have given, that it is not possible to produce wheat in Europe cheaper."

Argentine does not count in the calculation, because her crop cannot be reckoned on until the end of November. It is now promising, but a week of bad weather might spoil it altogether. If the Argentine crop fails there will be excitement in the trade. If it is a fairly abundant crop it will prevent such excitement. It cannot at best supply us with more than 5,000,000 quarters, which is a bagatelle in the general movement of the world's wheat. Besides, the difference in gold premium means a loss of from 5 to 10 shillings a quarter against the Argentine farmer.

The continental markets follow us here, and until the present occasion we have followed America. For the first time in years America now holds the key to the situation. Every bushel of wheat America can spare will be wanted in Europe. At least 20,000,000 quarters (160,000,000 bushels) will be wanted before the season is over. If America could hold back the wheat for a month it would go up 10 shillings ($2.50) a quarter. But I suppose the American banks do not consider wheat a commodity on which it is safe to give large accommodations; so that the American trade is obliged to send wheat on as fast as it can.

The Russian shortage is uncertain, but it is now assumed here that it will be 10,000,000 quarters. We look forward, on the whole, to an active time, with considerable fluctuations, for the moment trade becomes brisk the speculators will rush in and influence the market.

We give these dispatches for what they may be worth. They seem to show that what has hitherto been reported is mainly true, namely: that crops are generally short and that prices are much better than we have seen for some years past, and are bound to rule for a time at least.

Gleanings.

A FARMERS' INSTITUTE to be held at Santa Rosa promises to be a big affair. It will occupy two days and evenings. One feature of the Institute will be a reception tendered visiting delegates by the citizens of Santa Rosa.

REDLANDS *Citrograph*: The rage for setting out grape fruit still exists. But people are finding out that there are grape fruits and grape fruits. The public is willing to pay big prices for the best, but does not care for inferior fruit.

A HANFORD man who owns a magnificent vineyard has been offered a price for his raisins that gives him a profit of 9 per cent on a valuation of $100,000 for his vineyard. Three months ago he would have sold it for $50,000; now he asks $100,000.

SAN JOSE, October 24.—A bill of sale was placed on record to-day for the transfer of a lot of wine of this year's vintage to the California Wine Association. This includes 17,000 gallons from Louis Deement, 23,000 from John Snyder and 250,000 from Casa Delmas.

HEALDSBURG, October 21.—Sixteen carloads of canned goods were sent East from this city to-day. This is the largest shipment ever made in a single day from here. Prunes are going out in large quantities, and forty carloads of tanbark were sent out during the past three days.

THE correspondent from Los Gatos of the San Jose *Herald* says: "The big harvesting of the Cilker grape crop was finished to-day. The vineyard, which undoubtedly is the finest in Santa Clara county, embraces forty acres. The yield this year was eleven tons to the acre and required one month with a complement of ten pickers to gather the grapes."

THE annual meeting of the stockholders of the San Bernardino County Fruit Exchange was held at Colton last week and the following directors were elected: James Barnhill, S. N. Turner, W. S. Bullis, J. S. Edwards, L. M. Winston and Earl F. VanLeuven. The officers are: James Barnhill, president; W. S. Bullis, vice-president; Earl F. VanLeuven, secretary and the representative on the Executive Board at Los Angeles.

LOS ANGELES, October 24.—One of the largest and most important sales of sweet wines and brandy ever consummated in this country was closed to-day by G. B. Barham, acting agent for E. J. Baldwin, whose entire stock, consisting of 200,000 gallons, representing an accumulation of twenty years, was disposed of to the Sonoma Wine and Brandy Company of New York. The exact amount paid for the product is not known, but it is said a fair price was realized.

U. S. CONSUL MEEKER at Bradford, England, writes as follows: "There has been on exhibition at this consulate for the past week an American-grown mohair fleece forwarded to Bradford by C. P. Bailey of San Jose, California. The fleece is that of a two-year-old graded doe. The quality of the hair has been the wonder of all who have seen it. It has been closely examined by several of the leading mohair dealers and importers, all of whom have expressed the highest opinion of it."

AT the Martinez winery a new arrangement for conveying the crushed grapes and juice to the fermenting tanks is in operation, being the first of the kind in use in the State and for which a patent has been applied for. The grapes, as soon as crushed, gravitate into a kind of well, from which a large pump, a foot in diameter, forces them through a large fire hose to the fermenting tanks in every part of the building. This device has proven a great labor saver and avoids waste and mess.

THE Healdsburg *Tribune* says that the wine shortage in the region thereabout is about one-third of a full yield. The total vintage of the country around Healdsburg and as far north as Cloverdale will be over 2,500,000 gallons, which is about half as much as the whole product of Sonoma county in ordinary years. The rains of September wrought some damage to the grapes, but the extent was considerably less than that of last year, when about one-third of the Zinfandels was rendered unfit for the purpose of making wine. As a result the manufacture of brandy, in which grapes that are damaged in this way are utilized, will not be as extensive as it was in '95 around here; but it is reported that all the local distilleries will run extensively notwithstanding.

From an Independent Standpoint.

The circumstances of the pending campaign display, in striking contrast, two methods by which the American people determine public questions. For example: In this election the voters of California will decide for or against some half dozen projected amendments to the State Constitution, among them the question of woman suffrage; and on the same day, and in the same election, the same voters will give their judgment as to certain general policies of national government. Shall we retain the gold standard or shall we change to a silver basis? Shall we have a limited tariff for revenue or shall we have a tariff for protection? Shall we have a quasi-permanent civil service or shall we have rotation in office? Shall we accept as final the judgments of our Supreme Court or shall we consider them as subject to review and to nullification? Shall the action of the Government in suppressing the railroad riots at Chicago in 1894 be approved or shall the principle be asserted that the Government has no mandate to suppress disorder in a sovereign State or to enforce its own laws therein except by special demand from its Governor? Shall we enter into new arrangements with the Pacific railroads for the payment of their debts to the Government or shall we enforce the bond and take possession of the properties, thus establishing a new practice in the responsibilities of government? Shall we continue to stand upon the old policy of neutrality in foreign affairs or shall we aid insurrection in Cuba and support revolution in Hawaii?

The first of these questions comes up in direct and isolated form. The voter is free to consider the project of woman suffrage upon its merits, and he may approve or reject it without prejudice to any other issue and without reflection upon the party with which he may be identified and whose general policy he may feel bound to support. But in proceeding to the questions which follow, we find a very different condition. It is impossible to extricate any one measure from the crowd of other measures with which it is associated. The voter cannot give his ballot for any principle he approves without giving it also for the other principles associated with it and of which he may not approve. For example, if a man votes for a protective tariff he must also vote for the gold standard, for a permanent Civil Service, to sustain the Supreme Court, in approval of Mr. Cleveland's course in sending U. S. troops to suppress the railroad riots at Chicago and for a host of other issues associated in the platform of the protection party. On the other hand, a man cannot vote for free silver without voting also for free trade, against Civil Service reform, in condemnation of the Supreme Court, in criticism of the President for his course in the Chicago riots and for all the other assertions of the Chicago platform. In California, perhaps, not one-fourth of the voters would divide upon the exact lines defined by the party platforms; and the consequence is that a large proportion of the electors, in voting in accordance with their judgment and conscience upon some one, two or three leading measures, will, of necessity, vote contrary to their judgment and conscience upon other and minor measures.

It will not, we believe, be contended by anybody that a system which requires that the voter shall support principles which his judgment condemns, in order to assert principles which he believes to be necessary, is a perfect or sound one. Why should not the direct and ideal form in which the woman suffrage question is now submitted to the people of California for their judgment be adopted in putting the tariff question and the silver question before the people of the United States? Why should these great and vital issues be involved in the mess of general politics and associated with questions in no true sense related to them? The Standpoint fails to see any reason why they, and every other question of larger national policy, should not be determined like the woman suffrage question upon independent estimates of their merits, and by direct popular vote. Of course, the problem of applying the principle of direct reference to the voting body in a great and populous country like the United States is not a simple one; but surely a principle in successful use in relation to large departments of legislation by all the States of the Union may not be deemed too difficult for consideration in its national application.

The general principle involved in this suggestion is that of the much-talked-of "referendum," which, with its corallary, the "initiative," forms so conspicuous a feature of the Swiss legislative system. As defined in the Swiss practice, this principle is manifestly applicable only to a small and compact country of limited population and simple interests; but there is abundant reason for believing that in an easy modification it would not be impracticable in much larger and more complicated fields of political action. Indeed, the principle of the referendum is already very largely employed in State politics (as illustrated by the woman suffrage and other projected amendments currently projected in California), and it has not escaped notice that in all the States the tendency runs strongly in favor of a substitution of direct popular legislation for legislation through representative bodies. Changes in State government are made by conventions called into being for that express purpose, and their findings are submitted to the judgment of the electorate for sanction or rejection by direct popular vote. In most States, as in our own, the location of the Capital can only be changed by popular vote. In many States, if not in all, the Legislature is strictly limited in its power to contract debts; and all schemes of expenditure of a special kind must be submitted to a direct popular vote. It was only a little while back that the people of California were called upon to determine by vote whether or not a new ferry house should be built upon the State's property at the foot of Market street in San Francisco.

Commenting upon these and other similar facts, a very observing American writer (Oberholtzer, in his book, the *Referendum*), remarks:

> It is very usual for conventions in late years, at the time of submitting constitutions, to submit special articles or sections of articles for separate consideration by the people. These pertain to subjects upon which there is likely to be much public feeling. Subjects so treated by the conventions have been slavery, woman's suffrage, the prohibition of the liquor traffic, the location of State capitals, etc. There has been within recent times a radical change in our ideas in regard to State Constitutions, and our conceptions as to what matters are suitable for a place in these instruments. At the beginning they were, as Constitutions are supposed to be, statements of the fundamentals of government. Now, however, very different constitutional standards obtain, and in the States of every section of the country the same tendency is visible, and we have to-day come to a point when our State Constitutions are nothing short of codes of laws giving instruction to the Legislature and the other agents of Government on nearly every subject of general public concern, and often statiug the methods which shall be used in legislating, if not, indeed, actually legislating on local questions. The Constitutions have been the repositories for much of the legislation which before was left to be enacted by the Legislatures.

This excerpt clearly indicates the direction which constructive legislation in certain lines is taking in the several States; and it is suggestive of a principle which, it seems to us, might advantageously be incorporated into our national system. Under it "issues" like silver, the tariff, etc., might, in the final stage of their consideration, be wholly dissociated from other questions and submitted to the people on their simple merits. Such a change would not by any means involve the destruction of representative bodies, though it might, by submitting their action in certain departments of legislation to a higher authority, somewhat limit their power and dignity. It would not, we think, increase the risk of inconsiderate popular innovation. Experience has abundantly shown, in our own State as in many others, that when great questions are submitted to public judgment there is always made evident the force of a strong conservative tendency. How difficult it is to dazzle the people with the prospect of changes for the mere sake of novelty is demonstrated by the fact that in three cases out of five projects submitted to direct popular vote are rejected by it.

Not since the visit of President Harrison five years ago has there been in California so great a demonstration as that which greeted Speaker Reed at Los Angeles on Tuesday. Thirty thousand people turned out in spite of rain and mud. At Stockton, where he taught school many years ago there was another great demonstration. The coming of Mr. Reed to San Francisco has been delayed until Saturday, and a great day-light parade has been arranged in his honor. He will speak in the evening in the Mechanics' Pavilion.

History of Wheat Prices in the United States.

An official statement has just been issued from the Department of Agriculture at Washington, showing the fluctuations in the price of wheat during the last twenty-eight years and the causes that have operated on the market.

In view of the present activity in the wheat market, this statement is particularly timely and interesting. It was prepared by John Hyde, who was the expert special agent of the 11th census in charge of agricultural statistics, and who is now connected with the Department of Agriculture.

In the twenty-eight years ended June 30, 1895, the United States exported more than 2,000,000,000 bushels of wheat and nearly 220,000,000 barrels of flour, all of it of domestic production and equivalent in the aggregate to more than 3,000,000,000 bushels of wheat. For these enormous exports it received over $3,000,000,000 in gold, or its equivalent, the average export price for the entire period being $1.041 per bushel in gold.

Period of Fluctuating Currency.—The expression "in gold" is used because, from the beginning of the period down to the end of 1878 prices were expressed in currency, and that was continually fluctuating in value. While not nearly so low as during the critical period of the war, the current dollar was still worth only from 69 cents to 74 cents in 1867, from 82 cents to 90 cents in 1870, and so on until, at the end of 1878, the approaching resumption of specie payments raised it to par.

During the first years of the period under consideration, $3 in currency was worth very little more than $2 of the money of the other civilized nations of the world, to whom this country was disposing of its immense surplus stocks and from it was purchasing such commodities as this country was in need of. Before, therefore, the prices of American products at any time from 1862 to 1878 can be compared with the prices of similar articles in other countries, or at other times, they have to be reduced to their value in the money of commerce.

As wheat with its product is the principal bread plant of all civilized nations, the price is peculiarly sensitive to temporary influences. For that reason it can be considered most advantageously and most fairly in periods of five years—a period sufficiently long to reduce minor oscillations to their true relative importance and yet not too long to show the effect of any really significant movement.

Comparative Table of Figures.—Dividing the period from 1867 to 1896 into five years each and one term of three years, the following result is obtained:

Period.	*Total exports of domestic wheat and flour (bu).*	*Average price in gold per bushel.*
1867 to 1872	301,516,861	$1.1697
1872 to 1887	348,338,561	1.1414
1877 to 1882	726,373,692	1.1934
1882 to 1887	640,286,627½	1.0266
1887 to 1892	649,503,680½	0.9902
1892 to 1895	501,008,481	0.7847
Total	3,067,027,903	.....

The most noteworthy feature of this table, next to its stupendous aggregates, is the fact that it was not during the five years immediately preceding 1873, but from 1877 to 1882 that the highest average price per bushel was received. During that period the exports were larger than at any other time in the twenty-eight years. United States wheat was not brought into the same active competition with the wheat of other countries that it has since had to encounter. It was in great demand, and in obedience to a law as inexorable as the law of gravitation, its price rose to even a higher average than prevailed from 1867 to 1872.

Is it not true, however, Mr. Hyde asks, that, during this last-mentioned period, 1867 to 1872, wheat rose to an exceedingly high price? Was it not the case that throughout almost the entire first half of 1868 No. 1 spring wheat was worth in Chicago from $1.93 to $2.15 per bushel, and No. 2 from $1.80 to $2.10½, currency prices? This is true, and it is a fact which the wheat grower is not in the least danger of forgetting.

He does not so readily remember, however, nor is he so frequently reminded, that at the end of 1869 No. 1 spring wheat was worth in the same market only from 83 to 88 cents, and No. 2 from 76¾ to 80 cents per bushel, currency prices, equivalent only to from 63 to 72½ cents per bushel in gold, and this when silver was worth $1.325 per ounce, or 15.6 to 1.

Result of the Franco-Prussian War.—This period of low prices lasted about eight months, and was brought to an end by the breaking out of the war between France and Germany, which paralyzed the agricultural operations of two of the greatest nations of the world, and, aided slightly by deficient harvests in one or two other countries, speedily sent up the price of wheat in Liverpool 30 cents per bushel. In the United States wheat began to rise the moment war was seen to be inevitable, and within sixty days it had advanced 30 cents per bushel and flour $1.25 per barrel.

The net result of these various oscillations in values was that rather less than $1.17 per bushel constituted the average export price of wheat in the

United States during the five years ended June 30, 1872.

The second period of five fiscal years extends from July 1, 1872, to June 30, 1877. This is one of the periods that witnessed an extraordinary impulse to wheat-growing in the United States. The acreage devoted to wheat in this country in 1876 was nearly 7,000,000 acres (or more than one-third) greater than in 1872, and the crop of 1877 was 114,000,000 bushels (or nearly one-half) greater than the crop of 1872.

The annual requirements of this country's population had not increased in the meantime to the extent of more than 25,000,000 bushels; and, had it not been for the astonishing capacity of foreign nations to absorb this surplus production, a big drop in prices would inevitably have occurred. As it was, however, the average export price for the entire period showed a falling off of less than 3 cents per bushel, as compared with the preceding five years.

Effect of the Crop Failures Abroad.—The period from July, 1877, to June, 1882, has already been referred to. The average price of wheat during these five years was 5.2 cents per bushel higher than the average of the preceding five years, and even higher by 2.37 cents per bushel than during the period from 1867 to 1872, which preceded the demonetization of silver. The reason is to be found in a serious failure of crops in western Europe. The years 1879-81 yielded in the United Kingdom the smallest crops of any three years since 1852, and it was regarded as a matter of great satisfaction in that country that an abundant surplus in the United States prevented the prices of wheat and flour from rising any higher than they did.

It is worthy of note that in 1867 and 1868 the failure of crops in Great Britain, which the United States was unable to make good out of its own surplus, caused an advance in price of no less than 42 cents per bushel. The still more complete crop failure of 1879-81, however, was at once made good by enormous importations (the largest on record, even down to the present time) from the United States, and the price of wheat in the United Kingdom rose only 4½ cents per bushel. These are facts that cannot be disputed, and they have, Mr. Hyde declares, a tremendous significance in showing how prices are made.

Then comes the era which, notwithstanding certain marked oscillations, Mr. Hyde declares, may be described as one of gradually falling prices. The average prices on the farm in 1882 and 1883, and again in 1888, 1889 and 1891, were substantially higher than the average in 1878; and for the crops of the five years, 1887-91, taken collectively, the farmer received nearly 2 cents per bushel more than for the crops of the years 1882-86. The general tendency, however, was clearly downward.

Steady Increase in Production.—On examining in detail the statistics for this period it is found that the exports of wheat in 1882 and 1883 averaged 50,000,000 bushels less than in 1881, the first year of the period under consideration, being thus marked by an enormous falling off in the demands of foreign countries for United States wheat. The American farmer had, however, become so thoroughly imbued with the idea that the capacity of foreign nations to absorb this country's surplus production was practically unlimited that he continued for ten years longer to raise wheat in steadily increasing quantities, the production from 1882 to 1886 being more than 137,000,000 bushels greater than in the preceding five years, and that from 1887 to 1891 greater by over 121,000,000 bushels than from 1882 to 1886.

Had production stood still in other countries its increase in the United States would not, of itself, have brought down prices; but at the same time it was increasing rapidly in the Dakotas, Minnesota, Kansas, California and elsewhere, Russia, India and Argentina were all adding largely to the wheat supply of the world. Russia's exports of 371,250,000 bushels from 1882 to 1886 increased to 527,210,000 bushels during the next five years. This increase has continued, with a brief intermission, down to the present time, the exports from Russia last year amounting to no less than 145,996,000 bushels.

Prior to 1881 the wheat exports of British India were totally insignificant, but from 1882 to 1891 that country sent to the markets of the world the large aggregate of 327,394,024 bushels.

Increase in Argentina's Product.—Equally remarkable has been the increase in the exports of wheat from Argentina. From 1882 to 1886, inclusive, they amounted only to 11,621,221 bushels, but in the succeeding five years they increased to 44,290,560 bushels, while in the four years last past (1892 to 1895) they have reached a total of no less than 158,192,993 bushels.

Even Canada, that in 1884, 1889 and 1890 was an importing country, has during the last four years poured into the already bursting granaries of the world over 40,000,000 bushels of wheat.

Nor must it be supposed that all the great wheat consuming nations of the world have materially curtailed their own production. While this has been the case in the United Kingdom, Austria-Hungary, Germany and France have within the last half dozen years produced some of the largest crops in their history.

It is also important to note that the new supplies of wheat have been sent to the world's markets mainly from countries where the cost of production—or at least the cost of subsistence, which has the same cheapening effect upon the product—is considerably less than in the United States. This also had its effect—and a very considerable one—upon prices.

Pith of the Week's News.

THE first snow-fall of the season in California occurred at Sisson on Monday.

GEORGE W. SMITH of Visalia, a pioneer of 1849, was killed last week by falling from a load of hay.

J. H. P. MORRIS, a pioneer of Sonoma county, and the founder of the town of Sebastopol, is dead.

EGAN & HANLON'S well-known resort at Brighton, near Sacramento, burned to the ground on the 24th.

JOHN L. SULLIVAN has developed cancer in the right hand, brought on largely by habits of dissipation.

AT Chicago, on Monday, two grain elevators holding about 1,100,000 bushels of wheat were burned to the ground.

THE horticultural commissioner of San Bernardino county reports that Sampe Jamaica oranges have recently been imported, infested with dangerous scale.

THE steamship Umatilla has been floated and will be brought to San Francisco for repairs. There are twenty-five holes in her hull and it will cost $100,000 to put her in condition.

D. B. ROWLAND a farmer and stockman of upper Tehama county perished in the storm of Monday night. His dead body was found in the road only three miles from Red Bluff.

COUNTY TREASURER JACKSON of Shasta county is short $40,000 in his accounts. His peculations are alleged to have been carried on for eighteen years. He is under arrest at Redding.

JAMES L. PACE, a Yolo pioneer, was burned to death on the 24th while trying to rescue a child from his burning house. The horrible event occurred in the presence of Pace's wife and children.

AT Covington, Ky., last week, Senator Carlisle was hissed by a crowd of rowdies and several eggs were thrown at him. Order was secured by the police and the Secretary went on with his speech.

THE recent ceremonies at Paris in honor of the Czar cost the Government $400,000. A sum almost equal was recently spent in military reviews at Chalons. Republican simplicity seems to be a costly sort in France.

WHILE Antone C. Nunes, a Portuguese farmer living near Red Bluff, was beating his wife on Monday of this week, her son, a child of 11 by a former husband, shot him dead. The boy is under arrest, but it goes without saying that no jury will convict him.

AT Mt. Angell, Oregon, last week a Mrs. Dickinson who was supposed to be dead and who was about to be buried, suddenly came to life. The undertaker was fastening down the coffin lid at the time and if her wakening had been a few minutes delayed it would have been too late.

A STORY comes from England to the effect that Lord Rosebery, late Prime Minister, and W. W. Astor, the American millionaire, are rivals for the Princess Victoria, daughter of the Prince of Wales. The probabilities are that the story originated in the mind of some sensational correspondent.

HON. CHARLES F. CRISP, ex-Speaker of the House of Representatives, died at his home in Atlanta on the 23d inst., after a long illness. He was but little over fifty, and would within a few weeks have been chosen U. S. Senator for Georgia. His death is a great loss to Georgia and to the whole South.

MRS. PHŒBE HEARST, widow of the late George Hearst, has given $15,000, or a greater sum if it should be required, for the creation of a "comprehensive and permanent plan for the buildings and grounds of the State University at Berkeley." She also pays the salary and expense of Instructor Mayheck for a trip to Europe and the Eastern States to make a study of university plans. When the scheme thus to be arrayed is completed Mrs. Hearst proposes to pay for the erection of two buildings, one of which shall be a memorial of her late husband.

THE story that President Cleveland proposes to urge the granting of belligerent rights to Cuba is denied. The President's attitude toward Cuba is declared to be the same that it has always been, and unless some decidedly unexpected and unforeseen situation is presented in the next few months there can be little prospect that the administration will do anything more than attempt to prevent filibustering expeditions from leaving the Southern States. Of late unusual precautions have been taken to this end. Several months ago the Spanish Government was informed that the United States would pursue its present policy of inaction toward the Cuban insurrection until it was more positively shown that Weyler and his soldiers were incapable of bringing the war to a close

Observations in Europe of a California Fruit Drier.

(San Jose *Mercury*.)

F. Knowles, of the firm of Start & Knowles, fruit driers of East San Jose, returned last Saturday from a two months' trip to Europe, during which he spent much time in investigating the condition of the fruit market of Hamburg, Germany, with a view to ascertaining the opportunities for sales of the California dried product. Great preparations are being made for the International Horticultural Exposition to be held in Hamburg in May next, and undoubtedly there will be an immense attendance from every country in Europe.

"In Hamburg it is necessary for shippers to deal through the commission agents," said Mr. Knowles, "as they have such a firm and complete control of the fruit market that the most advantageous transactions can be made through them. All dried fruit of good quality and size finds a good market there, but the best sale at present are dried pears, and any who have them of nice quality and appearance would do well to ship their pears to Hamburg. They also are much interested there in apricots, and undoubtedly that fruit, if a good quality is maintained in the shipments, will soon become a prime favorite and ready seller in the market.

"In Hamburg the complaint is made by the trade that the California peaches have thick skins, and that makes the fruit too tough. As for the peeled peaches, they are said to be too dear—at least that is the case with all that have reached the market thus far. Lower prices for the peeled article, or a variety or process that would remove the objection of the tough skins, would make a good sale for dried peaches there, as that fruit is much liked.

"In London, where I remained several weeks, I found that there was a good market for the larger sizes of California prunes not smaller than 50 to 60. Small prunes from here cannot take the place of the Delmatian and Basnian prunes that are small and are shipped to London in bulk and sold remarkably cheap. They are cured by a cooking process.

"It is acknowledged in London that none of the foreign product is equal in flavor to the large California prunes. This is due to the sun-dried process, and dealers there declare that it would never do to attempt any cooking process such as resorted to in France and other countries of Europe. For the larger sizes of prunes there is a constantly growing market in London. For some time the dealers were afraid of the California fruit, because it was said to be soon injured in appearance by becoming white with sugar. It was acknowledged that this fact proved that the prunes were extra sweet, and fine in flavor accordingly, but it was insisted that the sale was thereby greatly injured. This objection is now fast being overcome, however, as experience proves that the fruit does not sugar perceptibly for twelve months at least, and besides the dealers in London are preparing to resort to the method used here of processing so as to restore whitened fruit to its natural attractive color and appearance. The European market for California dried fruit has a constant and substantial growth, and undoubtedly in a few years it will reach proportions that are little dreamed of at present."

HORTICULTURE.

Best Apples for the Upper Pacific Coast.

The more northerly coast and mountain regions of California approach more nearly to the conditions of the upper States of the coast than do the California valleys and upper foothills. In the mountains and near the coast the best California winter apples are grown. To a certain extent, the experience of apple growers in Oregon and Washington will be suggestive to Californians, although it is not at all a safe guide for the greater area of our State. With this limitation, the varieties most approved in the north should be brought to the attention of California growers. They will not be surprised that some of the varieties found to be best with them are also approved at the north. In answer to requests, some of our northern neighbors have written to the *Rural New Yorker* their conclusions in this line, from which we shall prepare a statement.

Frank Binns writes that the Baldwin and Esopus Spitzenburg apples are the two best late-keeping, dark-red winter apples which he knows for western Washington. It is difficult to increase the list to three. In some localities, on deep, rich upland, the Northern Spy would do well; on low land, in western Washington, it is inclined to be a poor keeper. In eastern Washington, Baldwin is not a late keeper, but west, it is one of the very best.

Hon. Henry E. Dosch of Oregon has given the growing of the best marketable varieties of fruits much thought and has tabulated the following list for northern and western Oregon: Oldenburg, Gravenstein, Northern Spy, Spitzenburg, Baldwin and Ben Davis, or substitute Jonathan and King of Tompkins County. For eastern and southern Oregon: Gravenstein, Wealthy, Baldwin, King of Tompkins County, York Imperial, Yellow Newtown Pippin, Wagener and Ben Davis, or any four of them. Mr. Dosch states that all apples in western Oregon mature much earlier than the same varieties do east of the mountains, both eastern Oregon and eastern Washington, as well as on the Atlantic seaboard, and the coast apples do not keep very long unless put in cold storage. But eastern Oregon grown apples keep fully as long as those grown anywhere, and are, perhaps, finer flavored than on the coast, where the fruits are so juicy on account of the humid atmosphere.

John A. Balmer, horticulturist of the Washington Experiment Station, says that Washington is a peculiar and wonderful State and has a great variety of climate. Apples recommended for the warmer valleys of the Yakima, Walla Walla, Wenatchee, Columbia or Snake rivers would be almost useless for such localities as the Palouse valley or the Big Bend country. And apples that are fairly successful west of the Cascades are sometimes considered of no account on the east side. So, there is no list of three apples that would be adapted to every part of the State. The highest-colored, best-keeping apples grown in the State are in orchards whose altitude is above 2000 feet. But the most of our orchards are at a much lower altitude—600 to 1200 feet.

The best late-keeping, winter apple is a yellow one—Yellow Newtown Pippin. This applies to any

part of the State where it can be grown. The best three red winter apples in the warmer valleys of eastern Washington are Rome Beauty, Esopus Spitzenburg and Delaware Red Winter. The best red apple west of the Cascades is Baldwin. In the higher altitudes fall apples become winter apples, and the list would include King, Wealthy and Wagener.

Oregon Nurserymen Decline to Fix Rates.

The Oregon Association of Nurserymen had a tussle at their meeting on October 9th with the proposition to adopt rates which they would agree not to depart from in selling trees, and have found it impracticable to adopt any agreement. As reported by the *Rural Northwest*, they have had an agreement which was generally signed, but it had been departed from and trees had been sold at cut rates. At the meeting most of the nurserymen said that they would have to quit business if prices were made any lower than those specified in the agreement, and that they would not sell lower in any event. It was decided, however, that as a few of those who had signed the agreement desired to cut prices, if necessary to meet competition, it would be best to set aside the agreement and let every man act for himself in this matter.

Small Stock in Oregon Nurseries.—Secretary Brownell said that the reports from the nurseries of the Willamette valley show that there is not more than half of the usual amount of stock in the nurseries the present season. Mr. McDonald corroborated this statement and said there would not be enough stock this year to meet the demands of the trade. The stock this year is at least 25 per cent less than last year, and, moreover, it is all young stock. There is very little two-year-old stock. Mr. Kirk, of the Capital City Nursery, believed in keeping down production, selling at a reasonable price and burning up the surplus, if there was any. He had been keeping down his stock for several years and had sold out at satisfactory prices. Stocks are smaller this year than before, and so far sales are about the same as last year.

THE FIELD.

The Opportunity in Beet Sugar.

While different California localities are demonstrating their ability to grow beets with high sugar percentages in the hope of attracting capital to the multiplication of our sugar factories, it is well to take a broad view of beet sugar production and see how great is the opportunity for home grown sugar in this country. Such a view is taken by Mr. E. Sowers in the *North American Review*, and his positions will interest all Californians who have beet land and are figuring upon its utilization.

A Historical Reference.—Nearly a century and a half has passed since Maggraf, a German scholar, announced in 1747 to the Berlin Academy of Sciences his discovery of a method of producing sugar from the beet. Half a century later his pupil, Achard, explained to the same academy his improvements in that process. Then the industry began to grow steadily, and under the encouragement of Napoleon it made considerable progress in France. Indeed, during the wars of Napoleon, when the sugar-laden merchantmen of France and of Germany, coming from the West Indies, were so harassed as to be nearly driven from the seas, the times were favorable to beet production in Europe. The decade following 1815 saw a great reaction, with the beet fields of France and Germany largely turned to other uses, and the beet sugar factories mostly closed. Then came a revival that lasted. The beet sugar industry was destined, however, to remain still a long time a target for the humorists, and one grave statesman compared it with the project of Swift's famous philosopher who sought to extract sunbeams from cucumbers. But it grew in spite of ridicule.

Figures of Growth.—The production of beet sugar in France for the year ending July 31, 1830, was 4380 tons; in 1840 it was 22,784, in 1850 it was 62,165, in 1860 it was 126,479, in 1870 it was 282,136, in 1890 it had reached 750,000 tons. Again, in 1830, the consumption per person in France was two pounds; in 1865, fourteen pounds; in 1890, twenty-six pounds.

A like growth in Germany is noted during a period of about fifty years:

	Sugar, tons.	*Molasses, tons.*
For 1840	13,445	8,955
For 1850	53,586	19,877
For 1860	126,526	35,224
For 1865	180,000	50,544
For 1871-72	186,442	63,892
For 1881-82	599,722	150,813
For 1889-90	1,213,689	240,797

Indeed, beet sugar has for Germany become an important article of export. In the year 1877 the amount sent out of the country was 57,753 tons. Ten years later it had increased more than ten-fold, to 643,340 tons, while in 1890 it had reached 718,985 tons. In 1890 our country paid Germany $16,000,000 for about 200,000 tons of beet sugar, and Mr. Sowers observes that this was "nearly three times more than it paid for any other article" imported from that land. How does this industry stand in the United States? Mr. Sowers tells us that in 1891 the production here was 12,004,838 pounds; in 1892 it was 27,003,322 pounds; in 1893 it was 44,836,527 pounds. He has no figures for 1894 and 1895, but if the increase has continued at anything like the rate just noted, the product by this time must be very large.

American Beet Sugar.—Parts of Kansas, Nebraska, the Dakotas, California and Utah have already been devoted to sugar beet culture, with most promising results. The rich soils and warm and even climate of California and Utah, especially when aided by irrigation, are suited to an abundant and excellent yield. In 1892 California alone produced about 20,000,000 pounds of beet sugar. Nebraska and the Dakotas add to a natural richness of soil sufficient rainfall in the season of rapid growth. The farmers of Nebraska find that the temperature for June, July, August and September is so high and even as to bring the beet to full maturity early in October. That State produced 5,835,900 pounds of beet sugar in 1893, or more than double the amount of two years before, and it also has one of the most successful beet sugar factories. Improvements in making the sugar go on, and a better knowledge is steadily gained of the conditions which tend to increase the yield.

California Figures.—A summary of facts given by Mr. Sowers in regard to this industry will be of interest: "The yield of sugar beets varies from twelve to forty tons per acre. The best land, with good cultivation and a favorable season, will yield from twenty to thirty-five tons per acre, but the crop would be hardly profitable at a yield of less than twelve tons per acre. In California the greatest production from a single acre of land was a little more than forty tons of beets; but this is an unusual yield. The estimated cost of production per acre is about $50. In the present condition of the methods of manufacture, from eight to twelve pounds of beets are required in the making of one pound of sugar; the quantity varies according to the greater or lesser richness of the beets in sugar. The price changes with the conditions of the market. About four years ago beet sugar from Germany was landed on the wharves of New York at a cost of $3.81 per 100 pounds. It rarely costs now above 5 cents a pound."

During the last sixty years such improvements have been made in the progress of manufacture that, instead of converting from 4 to 5 per cent of the beet into sugar, 12 to 16 per cent are converted now, and the cost of production per pound, which was once from 8 to 12 cents, is now only from 2 to 4. The average cost here in 1893 was 3 cents, and 24,000 acres were used for growing sugar beets, which brought to the farmer an average price of $4.50 a ton. An acre produced 3661 to 4620 pounds of sugar. In that year there were seven factories in the country, with a capital of about $2,000,000.

Sugar Consuming Countries.—If the figures of Mr. Sowers are correct, the annual consumption of sugar per capita in Germany is 18 pounds; in France and Switzerland, 26; in the United States, 44, and in England, 60. These are extraordinary differences, and England appears as having the sweet tooth. We are further assured that France, Germany and Austria produce beet sugar enough for home consumption and import little sugar, while Germany and France export large quantities. In 1892 Germany sold to English purchasers alone nearly 600,000 tons of beet sugar, the product of their factories and fields. As to our country, it is declared that we "spend annually about $135,000,000 for sugar, of which more than eight-tenths go to foreign countries. We consume one-fourth of the exported sugar product of the world. Fifty years ago 94 per cent of the annual sugar product of Cuba found a market in Europe; now that proportion of its production is sold in the United States." This last extraordinary statement suggests the vast commercial interest which we have in that island, and its growth in fifty years, and also indicates the opportunity for home-grown sugar in our own country.

THE APIARY.

Introducing Queens.

This is a standing subject in bee circles, for both experienced apiarians and beginners have to do with the problem of transforming common bees to improved hybrids by the introduction of pure bred queens. There is much artifice and ingenuity to be employed in the act of introduction, and there will probably always be occasion to discuss new methods. In the last *American Bee Journal* E. Gallup of Santa Ana, California, gives an interesting account of his methods.

Breeders' Directions Not the Best.—I tried the experiment the past summer of introducing queens according to directions accompanying the queen given by the breeder and attached to the cage. The directions were to place the queen, cage and all, as she was received, in the hive, after making the colony queenless, and allowing the bees to liberate the queen by eating out the candy, and on no conditions to open the hive under five days.

Well, I received queens from two different breeders by the same mail, and introduced the cages according to directions. On the third morning I found dead and wounded bees in front of the hives. I got a pan of water, tablespoon, and smoker ready, opened the first hive, spooned out the ball of bees and dropped them in the pan of water, and caged the queen. She was all right again. I opened the next hive, went through the same performance, and the last queen was so nearly dead that she only lived two hours. I dropped the ball of bees in the pan of water to prevent them from stinging her before I could get her liberated, and then she might fly away before I could cage her.

Protecting Queens.—I have lost queens by having them stung right before my face, trying to liberate them by smoke or other process. I have lost queens by having them fly away. I never have lost one by introducing with tobacco smoke. I once had a queen balled by introducing in the middle of the day when there were lots of bees in the field. Those returning that had escaped the smoking were the ones that did the mischief, but I discovered their trick in time to save the queen. I now introduce either in the morning or evening, when the bees are all at home. I do not smoke the queen, but roll her in honey before dropping her into the hive to prevent her from flying, and also to keep her more quiet, as a timid queen dodging about might induce the bees to attack her, when they otherwise would not. A strange queen that has been once balled is apt to be very timid.

In old box hive times years ago I drummed out a swarm of bees, hunted out the queen, and as soon as they had discovered the loss of their queen I liberated the Italian queen in the mass of bees, and she was all right, providing the bees were filled with nectar, recently gathered, or by thoroughly sprinkling with diluted sweet. In half or three-fourths of an hour shake the bees on a blanket in front of the hive, and let them run in the same as when hiving a swarm. I learned this kink from Mr. Wellhouser over fifty years ago; also the introducing with tobacco smoke, the true theory of artificial increase, rearing queens, etc.

Another Method.—I have practiced another method of introducing, with success. For a cage I use wire with the mesh just right, so that a worker can crowd through into where the queen is—I think about $\frac{3}{16}$ mesh, but I am not now sure of the size. Bees never meddle with a queen inside of such a cage. Introduce the cage between two combs by crowding the combs together so as to hold the cage in place; stop the upper end of the cage with a cotton rag, made into a ball large enough to fill the end of the cage.

Place the cage low enough so there is room for the queen to pass out below the flat cover. On the third day remove the cover of the hive carefully, pull out the rag from the end of the cage, and carefully replace the cover, and the thing is done.

Using Tobacco Smoke.—In smoking with tobacco, I puff in the smoke at the entrance of the hive, then wait two or three minutes and give them another dose, etc., until they are drunk enough to behave themselves. An ugly, cross hybrid colony I have smoked until many of the bees were kicking and sprawling on the bottom board. I have had such colonies that I could not get to accept a queen by other processes. If this is done early in the morning, or middle of the day, look out for robbers. Therefore, the evening is the best time.

An old, experienced bee keeper can almost always introduce by some method that he has adopted, but a great many queens are lost every year by using the method recommended by the shipper, and then the receiver finds fault with the shipper, and attributes all to wrong directions, etc. Beginners are apt to be nervous and excited, and they handle their bees so as to make them excited and cross. In all my tinkering with the bees this summer I have no cross bees. I can pass all around among the hives, and so can my little children.

A Boy for a Drone Trap.—By the way, my youngest boy is a perfect drone trap. I tell him what hive to catch the drones from, and he will squat down by the side of the entrance at the time when drones are flying, and soon clean them all out. He never gets stung, and of course it is the hybrid colonies that I set him at. In examining and manipulating my bees I light the smoker, (usually, not always), and have it on hand in case of a mishap. I never puff smoke into the entrance, but let the workers keep right along at work. I open the hive carefully, without jar, take out combs, and do whatever I have to do without using a veil or smoke, always being very careful never to crush a bee. My bees are pets—they are never abused, only when I use tobacco smoke in introducing queens. But they forget that insult in two or three days.

THE DAIRY.

Dairying in California.*

HISTORICAL.

The grazing interests of California were established by the Franciscan friars, who began their missionary effort for the christianization of the Digger Indians in 1769 at San Diego. In 1697 their predecessors—the Dominicans—located their first mission on the peninsula of Lower California, and a year later brought thither horses and cattle from Mexico. The offspring of this introduction came northward with the Franciscans and were the progenitors of the vast herds which supplied hides and tallow for a large export trade and were the main sources of subsistence for a considerable population of mission wards and Mexican settlers previous to the American occupation. Some idea of the extent of this grazing interest can be gained from the fact that in 1834, after the missions had passed the highest period of their prosperity, their property included 424,000 cattle, 62,500 horses, mules and asses and 325,000 sheep, swine and goats. These figures do not include the property of the settlers away from the missions nor the countless bands of wild cattle and horses which roamed the plains without mark of ownership. But while cattle were thus abundant and labor was to be had for the commanding, there was practically no dairying. The narratives of travelers state that milk was rare, but the poorest settler had plenty of beef in his pot. Even the goats must have been of very low dairy grade, for one visitor, while acknowledging that the goats were milked, adds that it was difficult to get a pint of milk from six of them. The mission padres had plenty of olive oil to take the place of butter and wine instead of milk. The Mexican settlers, with few exceptions, did not relish the labor which was required to produce wine and oil, and therefore drank water until trade brought them stronger substitutes.

With the American occupation, and notably with the inrush of gold seekers in 1849, a sharp dairy demand arose. This was supplied in great measure by importation, as will be shown presently, but it called into existence local dairying, the development of which was marked by novel features which invite brief description.

ESTABLISHMENT OF THE DAIRY INDUSTRY BY AMERICANS.

The beginnings of California dairying were made in two regions considerably remote from each other—the mining region amid the foothills of the Sierra Nevada, which form the eastern boundary of the State, and the seaboard region adjacent to San Francisco, which lies upon our western boundary. The latter region was destined to achieve great commercial importance, but there was no lack of characteristic uniqueness in the former. Many families of gold seekers who took up the march for the California gold fields from their homes on the prairies of the West camped their way across the plains, subsisting in part upon the milk of the family cows which they drove before them. Reaching the mines they found that the milk they had been using so freely would command an almost incredible amount of gold from the miners, and while the male members of the family engaged in mining direct, the female members often gained more dust by caring for and selling the products of their cows. Fresh milk and fresh butter brought them immediate and continued prosperity. Favorable lands were selected, and in these mountain homes grew up large herds and finally valuable dairies which formed the nucleus of the mountain dairy district, which will be mentioned in another connection. This pioneer dairy effort was established with cows bred to milk and with the ordinary dairy skill of the eastern half of the country nearly half a century ago.

EARLY PRACTICES AND PRICES IN THE COAST REGION.

The dairy industry of the coast region of the State was established upon a different basis. The early projector had here a wider opportunity in the demands of the thousands who arrived in San Francisco by sea. The supply of dairy goods consisted of butter and cheese by ship around the Horn from Boston and New York, or was gathered up at South American ports, where only the rudest dairying was practiced. These supplies were inferior to begin with, and were rendered almost inedible by the deteriorating influences of long sea voyages. Almost anything in the form of butter and cheese, freshly made, was greedily welcomed. Money was plentiful and fresh butter commanded $1.50 and cheese 40 cents per pound. But there were hardships in the way of production, even at these prices. Few cows were to be had except those of the hide-and-tallow breed of the Mexicans. To get any milk at all, this cow had to be lassoed and tied to a stake and allowed the company of her calf before a drop could be secured. Very soon, too, even these unprofitable animals became scarce, because of the vast inroads upon the available beef supply made by the hungry hordes of miners. High beef prices induced the driving westward of large herds of cattle from the Western States and from Texas, and this introduction brought to the pioneer dairyman stock which was poor enough from a dairy point of view, but still vastly better than that of the Mexicans. This movement of cattle soon proceeded beyond local needs for beef and prices ran low; but the inferiority of the stock as dairy producers was clear, from the fact that while the best of the four-year-olds could be bought for $10 each, and pasturage was almost free, the price of butter was thirty-eight cents and of cheese fifteen cents per pound. But if the cattle were bad, the dairy practice was a match for them. Nothing better than the roughest sheds were used to shelter the milk and dairy apparatus and to cure the cheese, and the cattle had no shelter whatever. The mild climate made this possible. The products themselves fluctuated in a way almost incredible. As late as 1858 cheese made from skimmed milk and sweet buttermilk combined sold at 25 and 27 cents per pound the same day it was taken from the hoop, and butter brought $1 a pound. Within two years these prices were quartered and the ruling rates were counted unprofitable, as indeed they were under the conditions then prevailing.

Under these circumstances the poorest dairymen went into other pursuits and the poorest cows to the butcher. Men with some dairy insight pushed forward into better systems of operation, cows were selected and trained for dairy production, pasture lands were purchased or leased in large areas, and the California system of large private ownership of lands and cows, with leaseholds to operating tenants, arose. This system of dairying with leased lands and cows will be described later.

MORE RECENT ASPECTS OF THE INDUSTRY.

During the decade following 1860 dairy operations were greatly extended. There were very wide fluctuations in market values, and there were serious losses of stock from drought, which the dairymen had not yet learned to provide against; but, on the whole, the business was very profitable, although still very wastefully conducted. The extent of the demand can be seen from allusion to importations. From 1860 to 1865 the importation of butter steadily increased, until in the latter year there was more than 6,700,000 pounds imported, for which more than $2,000,000 was paid. Local production soon began to supplant this importation, but there was about an average of a million pounds of butter brought in by ship each year for several years thereafter. The completion of the overland road also ministered to the supply from distant sources, and during the fall and early winter of each year considerable quantities of oleomargarine and creamery butter from the Chicago region were brought to San Francisco.

Cheese was also largely brought in by ship and rail during the earlier years of California's growth, and, in fact, it was not until about 1878 that local production reached the amount of local needs. From that time to the present there has been a surplus for distant shipment. Until 1890 this was fairly well disposed of at different places on the coast where new cities were springing up, and where mining, lumbering and railroad building enterprises were carried on in advance of dairy development in the immediate localities. At the preset time these distant parts of the coast are developing their own dairy resources, and, instead of buying from California, are marketing their surplus as far as possible in California cities. California dairymen have met these changed conditions by the old and accepted dairy weapons, viz., organization for the improvement of practice and the resulting cheapening and higher quality of the product. Thus the creamery system has come to California, sometimes as a graft upon the old system of large private dairies, sometimes as supplementary or as a substitute therefor, as will be presently described.

WIDELY DIVERSE DAIRY CONDITIONS IN CALIFORNIA.

Natural conditions affecting dairy practice in California are widely diverse and necessitate differences in practice in nearly all departments of dairy work, from the selection of forage plants and the care of stock all the way through the dairy curriculum to the manufacture and care of the product. There is no such variation on the Atlantic slope; but one can find something analogous in European conditions if he take into account the mountain dairying of the Alpine valleys, the moist, diked lands of Holland, the heated, irrigated plains of Italy and the coast lands of Normandy, with their perennial pastures born of equable temperature, abundant rains and fog. Close resemblances to all these various conditions can be found within the boundaries of California, and they must be taken into account in any successful attempt to describe the geographical features of the dairy industry in this State. With this fact in view, it is possible to lay down four chief divisions of California dairy lands, based upon a similarity of natural conditions within each of them. These divisions or regions do not comprise compact geographical areas, but are rather long, narrow bands or belts taking an extended range from north to south, with comparatively short east and west extensions. The governing factors, in their demarcation, are: Proximity to the coast, elevation and local topography, rainfall and other climatic features. The intrusion of some of these factors makes it impossible to follow exactly geographical lines in defining the regions. For ordinary uses, however, they may be arranged as follows: (1) Upper coast, (2) lower coast, (3) interior valley and (4) mountain valley.

FOUR MAIN DIVISIONS OF CALIFORNIA DAIRY LANDS AND CLIMATES.

(1) The upper coast region comprises the counties north of San Francisco which lie west of the Coast Range mountains and have a salt-water frontage either upon the Pacific or the Bay of San Francisco, or upon both. These are the counties of Marin, Sonoma, Mendocino, Humboldt and Del Norte on the ocean, and Contra Costa, Solano and Napa counties on the bay. In the ocean-side counties the dairy is a leading interest, while in the bay counties it is subsidiary. This region is the oldest dairy district in the State, and it is still in the lead both in extent of production and in the employment of progressive methods. The natural conditions for dairying are unsurpassed. The length of the rainy season gives a natural pasturage longer than can be found elsewhere in the State, and the amount of rainfall is such that there never has been a serious drought. On the immediate coast summer fogs refresh the pastures and ocean influences prevent extreme temperatures at any season of the year. Water is, as a rule, abundant and pure, and the soils exceedingly productive of clovers and grasses as well as of cultivated crops for supplementary feeding.

(2) The lower coast region is usually taken to include all the lands on or near the coast from San Francisco southward to San Diego, a distance of, approximately, 500 miles. This region also lies west of the Coast Range—that is, between the main chain of the Coast Range and the ocean—and is therefore subject to ocean influences in varying degrees, increased by proximity to the shore or lessened by distance or by the intervention of ranges of hills, which act as barriers to the progress of ocean winds and fogs. In this extended region the annual rainfall decreases as you go southward at the rate of about 2½ inches to each 100 miles of distance, and the average temperature increases about 1 degree for each 100 miles. This variation is regulated by local topography to a certain extent, but the general change is as noted. Naturally, the northern half of this region is the greater in dairy production. The counties of San Mateo, Santa Cruz, Monterey, San Luis Obispo and the northern half of Santa Barbara have the dairy as a leading industry, with San Luis Obispo at the front. In favorable years this county has made a record as the banner butter county of the State. Also included in this dairy region are the counties of Alameda and Santa Clara, bordering on the Bay of San Francisco, but within their boundaries horticultural production far exceeds the dairy. The same is true of the southern half of Santa Barbara, Ventura and San Diego counties, while Los Angeles and Orange counties, by virtue of large areas of low, moist land adjacent to the ocean, market a very large dairy product in addition to a large output of fruits and grains from higher lands. Though this coast dairy region south of San Francisco is thus seen to be notable in its adaptation and development in dairy lines, it is inferior to the coast region north of San Francisco, because of its less moisture and greater heat, its shorter pasturage season, its liability to occasional droughts, which about once a decade have caused serious loss of stock as well as product, and the need of greater effort to produce supplies of supplementary feeds; and yet through the introduction of better system and wiser foresight in dairy operations these difficulties and dangers give infinitely less concern than they did in former years.

(3) The interior valley dairy region comprises lands removed from coast influences. They are situated on the east side of high elevations of the Coast Range, which largely exclude ocean winds and fogs, including all the counties lying in the valleys of the San Joaquin and the Sacramento rivers and their tributaries. These areas comprise one great valley between the foothills of the Sierra Nevada on the east and the Coast Range on the west. It is, approximately, 400 miles long and varies in width from 40 to 60 miles. The valley region also includes some areas in southern California at a distance from the coast; but owing to the eastward trend of the high Coast Range in southern California, conditions are not quite the same. Here and there gaps in these mountains open a path eastward for ocean temperatures and moisture, and give to adjacent lowlands a mixture of coast and valley conditions, so that one region intrudes upon the territory of the other. This is notable where the Sacramento and San Joaquin rivers break through the Coast Range to reach San Francisco bay, and where the Salinas and Pajaro rivers flow into Monterey bay. At these points, ocean influences extend far into the interior, being, however, progressively ameliorated by interior heat and drought, as they proceed. The valley region proper does not include these modified areas, and is distinctly free from coast influences except those which surmount the ranges and thus have an effect upon the climate of the whole State. The leading

* By Prof. E. J. Wickson of the University of California; issued by the U. S. Dept. of Agr. at Washington, as Dairy Bulletin No. 5 of the Bureau of Animal Industry.

characteristics of the interior valleys are high summer heat and very dry summer air; very small and uncertain rainfall, consequently frequent and severe droughts; a very short season of succulent pasturage, except on irrigated or low, moist river-bottom lands of comparatively small area; scant water supply and that of undesirable warmth; occasional presence of insects in grievous numbers. In short, in their natural conditions, these interior valleys are unfitted for dairy husbandry except during the winter, when, if the rainfall be adequate, there is a very free growth of rich pasturage and the temperature conditions are excellent for dairy work.

In these arid lands progressive dairying has made its greatest achievements. The introduction of irrigation and the growth of alfalfa and other plants impossible without it; the use of centrifugal separators to secure the cream which could not be raised in good condition by the gravity method because no refrigerating agency could be had cheaply enough for general use; the construction of buildings excluding high temperatures and the employment of devices for cooling by evaporation of moisture—in fact, by meeting unfavorable conditions at all points by ingenuity and the employment of the latest dairy inventions, dairy manufacturing in the interior of California has been made practicable and profitable, and many lessons can be learned from it for the guidance of practice in other heated, arid regions. As a matter of recent history, it may be added that these interior regions, which were once almost wholly dependent upon the coast and the mountains for their dairy supplies, are now producing for distant shipment.

In all the interior valley region, however, both north and south, differences are in degree rather than in kind, and in all of them the use of naturally moist or irrigated land and advanced dairy practice are the ruling factors of success. Although this region is of vast area, only a small fraction is as yet employed in dairying. Fruit and grain are the chief products, but the dairy would increase as the irrigated area is extended if adequate market demand were assured. At present this does not seem to be the case.

(4) The mountain valley dairy region of California is quite distinct in its characteristics from any of those already mentioned, and it approaches more nearly than any of them to a likeness to the dairy conditions and practice of the Eastern States. In one sense the mountain region is supplementary to the interior valley region, because there began very early in the development of the State an itinerant system of dairying in which the cows were driven back and forth from valley plains to mountain meadows, wintering in the valley and summering in the mountains. This practice chiefly prevailed in the northeast quarter of the State, and while uninclosed public lands yielded abundant free pasturage and prices were high it was very profitable. As a system it was quite analogous to the Alpine dairying of Switzerland. More recently the occupation of public lands and other adverse conditions have reduced the practice, but some dairymen have permanent locations both below and above, and still migrate twice a year. The system does not favor the use of improved methods and cannot long survive.

This is, however, only one phase of mountain dairying, and now the least important one. The early demonstration of the good points of the mountain district was followed by the permanent establishment of dairying. The natural pasturage is superior, and moisture in summer favors the growth of some standard dairy grasses which do not thrive elsewhere in California; the streams and springs run cold water; natural ice can be had, and deep setting in coolers is feasible.

On the other hand, a winter of snow and ice makes the Eastern methods of stock shelter and provender imperative, and distance from market and transportation of products place the producer at something of a disadvantage. While good dairy markets in the mining towns of Nevada could be had, this was not of so much importance, but now that these towns have declined and Nevada has become a shipper of dairy products to California markets the situation of the mountain dairymen is less satisfactory. The mountain region, is, however, one of great reserve force, and in the future growth of the coast will have better opportunity to exercise its excellent productive ability and to use its rich resources. The mountain counties which have made the best records in mountain dairying are Sierra and Plumas, although other counties both north and south of them also have important dairy interests and resources. Siskiyou and Shasta counties have thriving local dairy establishments which find a market in adjacent mining regions. Lassen and Modoc counties have large grazing and grain interests, and with better transportation facilities could largely increase their dairying. The higher elevations of Placer, Nevada, El Dorado, and, in a less degree, Amador and Alpine, have good mountain pastures which are partially utilized, while Mono and Inyo, the only counties in California east of the Sierra Nevada mountains, have a considerable surplus dairy product which reaches market by means of a railway running thence into Nevada.

(*To be Continued.*)

THE STOCK YARD.

The Silo In California.

At the Los Angeles Dairy Convention by PROF. A. J. COOK of Claremont.

Value of the Silo.—Few inventions that have to do with stock husbandry are of more importance to that industry than is the silo. Dairymen and those who feed for beef or mutton have long felt the need of a more appetizing food regimen for the animals during the time that it could not be secured naturally, because of the season of the year. Succulent food is demanded. Again, the old time pasture was very expensive. With the silo, a single acre of ground with one annual crop will support the mature cow for an entire year. It would take more than twice as much pasture land to give the same result. Silage then gives two very important advantages to the dairymen, or to him who feeds for the shambles. It gives a more wholesome, appetizing and a more economic food ration than can be secured from dry food. We as feeders may not be moved alone by thought of what our stock most relishes for food, but the economy which follows the more appetizing diet, as also the intrinsic superiority of silage will interest every breeder, feeder and dairyman. This explains why silos have multiplied so rapidly in all the stock localities of the East. A single silo in the neighborhood becomes a tremendous propagandist; and soon there were dozens. Men saw that there was money in the silo and silos sprang up galore.

I think the first ensilaging of green crops was done in France. But, as always with all good inventions, America was the quickest to profit by the invention, and very soon had so modified and improved upon it, that soon the offspring hardly recognized its parent.

Essential Points.—A silo is like the fruit jar; an air tight receptle, in which to preserve fresh vegetation unchanged. In the East we add frost proof, which is unnecessary in our more genial California. In California there are but two requisites to a first class silo: It must be strong enough to resist the pressure, which in very high silos is often tremendous, and must be entirely air tight. I have known many silos to burst from the pressure of the silage, and have lost not a little in my own silos from cracks which admitted air. In hot weather, and always in California, the silage must be fed off rapidly, at least four or five inches daily, or it will heat, smell bad and become unwholesome. Thus I might add a third requisite: The size of the silo should correspond with the amount of stock to be fed, or should vary directly with the size of the herd. The advantage of the silo is three-fold: It gives an appetizing food; it gives succulent food the entire year round; it enables us to harvest our corn, the vegetable par excellence for silage, when it is worth most.

Feeding Points of Silage.—The importance of succulent or appetizing food is not appreciated as it should be. It is well, and no doubt serves economy to feed a well balanced ration, with the albuminoids, fats and carbohydrates in proper proportion to meet all functional needs. Yet this is not enough. I believe the physiological factor exceeds the chemical factor in importance. The body can make carbohydrates out of the purest albumin oid, andfat may come in turn from amyloids; but digestion is never at its best unless it leans on appetite. Tasteless or disagreeable food never brings complete nutrition or functional energy; no matter what the elements. Just here the silo scores a big advantage; it satisfies the taste.

The silo makes it possible to furnish the most nutritious food, because most appetizing, in winter no less than summer. The winter product, whether of beef or butter, sells high, because produced at great expense. The silo reduces this expense, through more wholesome rations, and so the feeder of silage secures a higher market price for what costs no more, or but little more, than the product of summer.

The corn crop—the most valuable crop for the silo—gains in value very rapidly just at the last, till the ears commence to glaze. If harvested before this time, there is loss. After this the drying off commences, to enable us to keep the crop. This also reduces the value. Could we not keep it unless it hardened, it would be a necessary loss, but we can, through the aid of the silo. Thus the silo helps us to secure this wonderful product when at its best, and thus there is no inconsiderable gain. So we see how the silo increases profits, and why it has come so rapidly to the front.

The silo can be planned to meet the size of the farm and herd. An acre of ground should give twelve tons of silage per crop. A large cow will eat from forty to sixty pounds per day. A cubic foot of silage will average fifty pounds. Thus a circular silo with a 10-foot radius and 20 feet high—the silo should be high to secure pressure—will hold 170 tons, or the product of fourteen acres. This gives 6280 days rations, or will keep seventeen cows for a year.

Handling Corn in the Silo.—I think corn is preeminently the crop for the silo. No crop gives more if as much absolute nutrition per acre for cost of production. No crop seems more appetizing and wholesome. Other crops can be preserved and fed in a dry way with far less of loss. I have not found the profit from ensilaging clover or the cereals to be comparable with that when corn is the crop used. The corn should not be put into a silo till its ears harden or glaze, or some of the lower leaves will have dried up and died. This gives us all there is in it, and gives a better grade of silage. In canning fruit, we heat till we kill the germs of fermentation, then seal air tight to fence them out. In the silo, fermentation commences, but from lack of air, can proceed but a little, before the germs die. Thus the silage is only a little sour and is very palatable. In case the corn is harvested too early, the fermentation goes further; probably because of the excess of water, and the silage is inferior. Therefore corn ensilaged before it is fully mature will never give the maximum product of nutrition nor the best quality of silage.

Some of our most successful stockmen put the corn into the silo whole. They claim a gain in economy of labor with no detriment to the silage. I have always cut my corn into pieces one inch long. Were I to commence again, I should try storing the corn whole before buying the expensive machinery—in my case a tread mill and cutter, with a 20 foot carrier—which costs over two hundred dollars at the best. I always have the ears on the stalks and cut all together. I think it is the cheapest way to harvest the grain. In the silo the ears are softened so that the digestion is perfect, and they are perfectly preserved in this huge cannery. Of course this saves all toil which otherwise would be paid for grinding the corn. At first silage was heavily weighted at much expense of labor. Now we add some cut straw, apple pumice, etc., and experience no loss.

As before stated, we wish to feed rapidly enough so that we shall prevent fermentation at the exposed surface on top. Thus we should have stock enough to eat 6 inches or more daily, when the weather is warm, which may be at any season in California.

Construction of Silos.—The silo may be constructed in a barn or outside, as circumstances dictate. In a barn it would need no roof. The form of the silo in a barn will be rectangular to economize space. Outside it should be round. This serves two advantages: A round silo is stronger, and the absence of corners permits more thorough setting, which excludes the air, and the silage keeps better.

In the East where the walls must be double, it is better to use studding and half-inch siding bent and put on double so as to break joints. By backing this with building paper, we can secure an air tight chamber, without other precautions, though we can paint it inside if we desire to do so.

My second silo I built out doors, in octagonal form, beveling the boards at the angles and backing them with paper. The inner siding was matched and was nailed to joists. This was not satisfactory as the air entered at the angles, and I afterwards plastered, it as we do our cisterns, with cement, as I did my first silo, built in the barn which has always given excellent satisfaction. Each fall, however, I wash it with a thick coating of cement before I fill.

Another way to make a round silo is to use bevelled planks, arranged as are the staves in a barrel, which are hooped so that they can be forced together so powerful as to make them air tight. Mr. Platt of this county, has such silos, and I hope he will tell us something of them.

The cost of silos in the east is much more than here. I am told that a silo here may be built for seventy-five cents per ton of silage content, and even less. Mine in Michigan cost double that amount.

Silage for All Kinds of Stock.—It will very likely be asked to what kind of stock silage may be fed to the best advantage. I would answer feed to any stock which thrives on good pasture. I have fed with signal advantages to dairy cows and to cattle fed for beef. To dairy cows we can add bran if we wish to consult the balanced ration theory, but in my own case I have not found that necessary or best. In fattening cattle, we have produced phenomenal gain by feeding silage alone. We believe in it for such purpose. We are also equally pleased with silage for sheep; either store sheep or those fed for the shambles. I have not fed silage to hogs or chickens; but am sure it would prove excellent in either case. That marvel among hog fanciers, Mr. Theodore Lewis of Wisconsin, commends it in the highest terms for his pets of the sty. I have fed horses exclusively on silage with no ill results and with gratifying success. I have fed brood mares with silage that foaled in fall and both mare and colt did most admirably. Soon the colt was supplementing a milk diet with a generous allowance of silage, and the combination proved excellent indeed. There have been complaints that horses have been killed by feeding them silage; and others that they have been injured in health. It is necessary in all cases to feed carefully at the commencement. With horses, it is important to exercise caution always. With No. 1 silage, I know from my own experience that it is entirely safe to feed alone; but in feeding horses, I especially urge the importance of watchfulness. In case the bowels become too active, we should reduce the quantity and add dry straw or hay. Rea-

son and experience join voices in recommending silage for all our domesticated animals. And in case there is ill success, the blame must not rest with the silage, but with the feeder. Either the silage was not properly prepared or else faulty judgement in feeding was at the root of the trouble.

Silage Milk.—From what I have already said, we see that there is no ground for condemnation of silo-fed milk. Such milk should be, from every physiological law known to science, of the very safest and highest quality. More than ten years' expensive experience confirms this dictum of scientific prophesy. The experiment stations have brought all their immense erudition, coupled with the most thorough research, to aid in the investigation, and all voice the superior merits of silage in milk production. It would be a hardly less gigantic blunder to denounce to the best blue grass pastures for dairy stock. Every large city in the East rejoices in milk from silage fed cows. The health officers of these cities are both alert and intelligent. They are silent in this matter because they are capable and intelligent.

DISCUSSION.

In the discussion which ensued the following replies were elicited which are reported by the *Cultivator* as follows:

Prof. Cook: "A silo can be built almost any height, but not less than 20 feet would be my advice."

C. E. Platt: "My silo, a round one, was a success. It is 24 feet high and 24 feet in diameter, capacity, 200 tons. It cost 62½ cents per ton capacity. The silage was cut in half-inch lengths and kept perfectly. My cows gained 25 per cent on it. Fed twenty-five pounds per day to each cow."

Porf. Cook: "Prof. C. C. Georgeson of Manhattan, Kansas, has tried sorghum for silage and reports most favorably."

Major Alvord: "Let your corn stand before cutting until every blade is gone, if necessary to do so, in order to have the ear in the proper stage (the glaze.) The leaf contains but 8 per cent of the total nutriment. The amount of feed taken from the ground after the leaves are gone is more than the entire crop would be at any other stage of growth. Sorghum makes as satisfactory a silage as corn and possesses the great advantage of not shrinking so much. Several small silos are far preferable to one large one, for one can be opened and fed while the others are left unopened. When we talk about the question of putting corn into the silo cut or uncut, we must not lose sight of the fact that the fodder has got to be cut at some time or other, and the question is, whether it is easier to cut it all at one time with power or to cut it feed by feed by hand. If, however, it is decided to put the corn in whole, open the end and cut down vertically so as to expose as little surface as possible to the air. All stock do well on ensilage."

Passing from corn silage to beet pulp, the Major said: "This is worth almost as much as the whole beets. The only way in which to preserve it is to silo it in some way or other, either in a pit or in a silo above ground. Brewers' grains can be preserved fresh in this way for some length of time. But none of these feeds, either corn, beef pulp or brewers' grains are fit food for dairy cows after putrefaction has set in. The fermentation is arrested by siloing. Then all of them are proper and healthy foods. A round silo should not be less than 7 feet in diameter; less than this will not allow the proper fermentation."

THE VETERINARIAN.

The Cornstalk Disease.

We do not have as much cornstalk disease with stock in this State simply because we grow comparatively little corn, and yet there is complaint every fall of the loss of some stock; and this is likely to increase, for sorghum stalks are likely to act in the same way as the stalks of Indian corn, and sorghum growing for stock is rapidly increasing in the interior valleys of the State. In Kansas they have had cornstalk disease very prevalent and great losses have ensued. The veterinarian of the Kansas Experiment Station has recently made a special study of the question and he makes suggestions about handling stock in the stalk fields.

Guard Against Overeating at First.—Cattle should never be started into the stalk fields hungry. They should be well fed and watered, and care should be taken that bosses do not keep younger cattle away from water, before starting into the stalk fields. If cattle are well fed they will take more pains in picking and chewing their food, and are not so apt to engorge themselves and bring on indigestion. Or, if the disease is caused by some poisonous substance, the action of the poison is much less violent and less apt to be fatal when taken on a full stomach. Hence, whether the disease results from indigestion or a poison, feeding and watering cattle well before turning them into the stalk field will tend to reduce the losses.

Give Salt and Good Water.—Salt and plenty of good water are essential to the proper nutrition of all cattle, and especially if there is a tendency to indigestion. Cattle should have all the good water they care to drink, often. They should have free access to salt, or be given small quantities frequently. Large quantities of salt at irregular intervals are probably worse than no salt at all. Cattle crave salt and if given considerable at one time will eat sufficient to irritate the stomachs and bowels, and thus cause indigestion. Cattle in stalk fields should have plenty of good water frequently, and salt as described. Salt and water are only preventatives in so far as they tend to assist digestion and assimilation, and thus tend to keep the animal's digestive system in good condition.

Start in Gradually.—Cattle should be started into the stalk fields gradually, not allowing them to remain on but a short time—one-half hour—the first day, and gradually increase the time. Such a plan, gradually accustoming the cattle to a change of feed, is less apt to cause indigestion. Some stockmen think it a good plan to feed cattle corn fodder for a week or ten days before turning into the stalk field, thus getting the cattle used to digesting cornstalks before putting on the stalk fields. Whether cornstalk disease results from indigestion or a poison, the above plan will tend to reduce losses. It is well known that with many poisons a gradual increase in the quantity taken produces a kind of tolerance to its action, until large doses can be taken without serious results, that under ordinary conditions would prove fatal. The practice of keeping cattle in a corral or on scant pasture until they are hungry and then turning them into the stalk field for a short time is bad practice. Cattle, if hungry, will eat enough in a very short time to cause serious results. Better to feed and water well and turn them in the stalk field and let them go. If cattle can have some laxative food, such as millet hay and alfalfa hay or green feed, while running in the stalk fields, it seems to give excellent results toward preventing cornstalk disease.

Why Do the Stalks Give Trouble?—The history of the disease also indicates indigestion, as the disease usually occurs when cattle first go into the stalk fields. It is well known that a sudden and violent change of food is apt to cause indigestion, and, having an indigestible food, a sudden change is likely to aggravate the trouble. The symptoms, too, indicate indigestion with reflex nervous symptoms. There is constipation, often bloating symptoms of abdominal pain and disinclination to eat. The post-mortem conditions usually indicate indigestion, as shown by impaction of the omasum, and some irritation of the stomach. It must be considered, however, that the post-mortem condition of the stomachs rarely indicates sufficient disturbance to cause death. In this connection it is important to call attention to some conditions of the stomachs of cattle that are apt to mislead one who is not familiar with them. First, the naturally hard and dry condition of the omasum or manifolds. It is naturally firm and quite hard, probably harder in consistency than a bag of putty, and the contents are quite dry. This naturally hard and dry condition is decidedly increased in cornstalk disease, as it is in some other diseases. I have noticed that impaction of the omasum is a very prominent condition in rabies (hydrophobia), and it is not the result of a high temperature, for, in both rabies and cornstalk disease, there is very little rise in temperature (fever), while in case of Texas fever I have examined cattle whose temperatures registered 110° F., which was as high as my thermometer registered, and yet in such cases there is no impaction of the omasum, showing that impaction is not caused by high temperature.

There May Be Other Cause.—From the symptoms shown by cattle sick with cornstalk disease, there would seem to be paralysis of the stomachs, and this view is further strengthened by failures to get any action from purgative medicines, even the most violent purgatives. As indigestion or impaction does not seem sufficient to cause death in many cases, we must look for the presence of some injurious or poisonous substance probably in the cornstalks. Corn, wormy and mouldy, especially, will also be studied and examined, but it seems doubtful if any substance will be found in this especially injurious to cattle, as no reports are at hand of ill effects where corn has been fed alone or in connection with other foods. In cornstalks, then, the only poisonous substance so far found is saltpeter (potassium nitrate). An unusual amount of potassium nitrate in cornstalks can be readily detected by lighting a dry piece of the stalk with a match. If saltpeter is present the stalk burns with little flashes, or "sizzing," as if gunpowder was scattered through the stalk. Sometimes the potash can be seen on the outside of the cornstalk, under the leaf sheath, or "boot," where it occurs in fine white crystals and looks like mould, but is readily distinguished by touching with the tongue; the taste of the potash is characteristic. Observations seem to indicate that there may be more than one disease or condition which are liable to be confused under the term cornstalk disease. There are indications that what may be called typical cornstalk disease in cattle is a combination of indigestion and some toxic substance in the cornstalks, possibly saltpeter (potassium nitrate).

THE POULTRY YARD.

An Eastern Farmer's Points on Profitable Poultry.

It will be possible for some California farmers, especially for those situated near the larger towns, to conduct an egg adjunct to their other cropping on the plan which more advanced Eastern farmers are adopting. Walter F. Brown keeps about 100 hens on an Eastern farm, and he has made more money from them during the present year than previously.

Reasons for Improved Results.—When we foot up the sales this year I think I shall find a larger cash balance than we have had for some years, and I think this is due to two things: First, better feeding, and second, wiser marketing. Of one thing I am sure, and that is that I never before got as many eggs in a season from the same number of fowls, and I never fed so regularly and carefully. Our hens are now many of them moulting, and the number is reduced to about eighty, as we lost quite a number from apoplexy during the hot weather, cooked several before the young chickens were old enough to eat, and sold a few to a neighbor; but during the two months of July and August we sold 183 dozen of eggs from them. I did not keep an account of the eggs used in the family, but as this is the season of the year for picnics and company, and on several occasions we used more than a dozen eggs a day, I think that our hens laid fully 200 dozen eggs in the two months. In these times of low prices $9 or $10 a month in cash is not to be considered insignificant.

How to Get an Advanced Price for Eggs.—At no time during these two months did the hucksters who pass my house pay more than 7 cents a dozen for eggs, or the grocer more than 8 cents in trade, but my eggs were all sold for cash to one customer for 10 cents. How could I get above the market price? By warranting every egg fresh, and furnishing only clean, attractive looking eggs. I say to any customer who will agree to take eggs regularly of me: "If you find a bad egg among them, I will replace it with two." I can afford to make this offer because I attend to gathering the eggs myself, and as I leave no nest eggs and have clean nests my eggs are not only good and fresh, but attractive in appearance. If an egg gets soiled, as sometimes one will, it is carefully washed and dried with a towel. The eggs are kept in a cool cellar and delivered to my customers on a fixed day each week.

Feeding.—I feed my hens three times a day, as regularly and carefully as I do my horses, and see that they always have fresh, clean water by them and supply them with clean gravel and oyster shells. I keep the hundred hens in two colonies, and have a warm house for each and a yard attached, so that I can keep them shut up if desirable, but, unless the yard is large enough to furnish grass, I let them out a while in the evening. If hens are let out an hour before sundown they will get a feed of grass and glean any waste food without being likely to get into mischief. Hens like variety in their food, and, while bran and corn meal are the staple food, I feed whole corn and oats once a day, and cabbage, lettuce, tomatoes and any kind of ripe fruit or melons that are unsalable. In cold weather we always give a warm feed once or twice a day, and this can be best done by cooking and mashing unsalable potatoes or scalding oil meal. In either case make a thin mush and thicken with bran and corn meal. A gallon of potatoes can be cooked on the stove while breakfast is being prepared, and then thinned to such a consistency that it will easily mix with the bran and meal, and then thickened and fed warm. A single pound of oil meal will thicken two gallons of boiling water until it will be like molasses, and this will make the feed for 100 hens both warm and rich.

Winter Eggs.—With a warm house and plenty of such feed as I name you will get eggs in winter when they will bring a high price. There is more in the care of poultry than the breed, and the better the care the greater the profit. I had never fed lettuce to poultry until last year, but after feeding it to several hundred young chicks and chickens for two seasons I pronounce it the most satisfactory and the cheapest of all foods for poultry. Of course, it does not take the place of grain, but if your fowls are fed all the lettuce they will eat they will need less grain and grow faster than without it. I was surprised this year to find that I could cut over a pound of lettuce to a foot of drill, and as it can be grown in drills 16 inches apart it will be seen that more than one hundred and fifty pounds can be grown on a square rod. A single planting will furnish feed for a month, and by making several plantings the season can be made much longer. The eggs and poultry used in the family will go far towards paying for the keep of my fowls, for we use both eggs and chickens freely all the year around, and my books show that the eggs sold from my hens since January 1st have brought me $63, and I am sure that this is all net profit, for in addition to what we have used we have 100 fine young fowls, more than half of them pullets, and some of them large enough to lay.

Transcontinental Arc.

A telegram comes from Washington to the effect that the Coast and Geodetic survey has just concluded its labors in the field upon the geodetic survey undertaken and known as the Transcontinental Arc, and lies along the thirty-ninth parallel of north latitude, extending from ocean to ocean. Its eastern end is at a point on the Atlantic ten miles south of Little Egg Island lighthouse, below Cape May, and its western end is six miles north of Punta Arena lighthouse, on the Pacific, above San Francisco. According to the radius of the thirty-ninth parallel, as given by Bessel, the astronomer of Germany, who first calculated the diameters of the earth, and measured the distance from the earth to 61 Cygni, the nearest fixed star, the length of the arc, as measured by the Coast and Geodetic Survey officials, is 111 feet in error, and according to the radius of the same parallel, as fixed by Sir Andrew Clarke of Glasgow University, the error is 98½ feet. But General Duffield, superintendent of the survey, declares that these variations from the heretofore established standards show error in them, and not in the calculation of his scientists.

The value and vastness of the work just accomplished cannot be intelligently appreciated by the unscientific mind. It was inaugurated by the survey officials nearly, if not quite, a century ago. Progress upon it has been spasmodic, but some work has been done every year since the beginning. It has cost the Government about $1,000,000, but the expenditure is said by the officials to be fully justified by the importance of the project. Russia and China are the only other countries on the globe where a base line of anything like equal magnitude is possible, and in neither one is it likely to be surveyed for many years. The longest base line heretofore surveyed was that in India, running north and south about a thousand miles in length. European scientists have been greatly interested in the progress of the American arc, and its completion will doubtless be the occasion for many congratulations from abroad.

PROFESSOR HOGG, of Fort Worth, Texas, writes of the benefits railroads have conferred on the people, and claims that they have cheapened the necessaries of life to consumers. One day's wages will pay the cost of bringing a whole year's provisions from St. Louis to Baltimore. Retail dealers get more profit from handling flour, beef, ham, tea, shoes or clothing than do the railroads for hauling them 1000 miles. They protect us against scarcity prices and famine by supplying the deficiencies of one region from the superabundance of another. They increase the pleasure of life by facilitating travel at rates that suit the poorest purse. American railroads are operated, in fact, at rates that give little or no profit to their owners. Abroad rates are much higher. Freight rates are three times as high in England. Passenger rates show a like advantage to the American traveler. As respects military defense, railroads are immensely beneficial. They save the expense of maintaining a large standing army by the facilities they give for the concentration of troops. In time of war they do an indispensable work in the transportation of troops and provisions with speed and certainty. Professor Hogg, in stating that freight rates in England are three times as high as in this country, seems not to be aware that the charges in England include, not only actual freight, but also the cost of drayage at both ends. Each of the great railways of England maintains an immense number of drays, with the finest draft horses in the world. One who wishes to ship goods from his residence or a warehouse in any part of Liverpool to any given address in London, for example, needs only to give notice to the railway company. Their dray will call for the goods, which will be delivered in London by the company's drays there. The freight charges include all costs of drayage. One great advantage to the shipper is the saving of bother about having the goods taken to and from the depots at the shipping and delivery points, and another is the certainty that the goods will be more carefully handled by the railway company's drayman than they would be by others.

THE treatment of ramie, rhea, or china grass, has long been a stumbling block in the way of inventors. Some years ago the Indian Government published an offer of a lac of rupees (£10,000) as a reward for a successful decorticating machine. The lac of rupees, however, was never awarded, and has now, we believe, been withdrawn. The difficulties relating to the treatment of the fiber have now, substantially speaking, been overcome by the evolution of perfected machinery. But the exploiters of this admirable fiber are now confronted with a more formidable obstacle than any they have encountered, and that is the difficulty of getting any adequate supply of the rare fiber at all. There are now ramie works in going order, recently established at Staines, where about three tons of filasse are reported to be turned out every week. But the owners recognize that until something can be done to secure a plentiful supply of the fiber, and at a reasonable price, the ultimate success of the works can hardly be anticipated. They estimate that it will pay the grower handsomely to cultivate ramie at a selling price of £6 per ton, hand-stripped. It cannot be obtained at present under more than double that price.—Industries and Iron.

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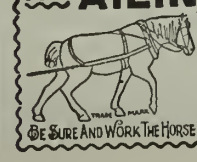

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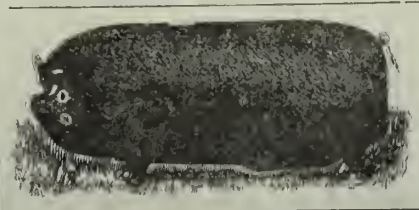

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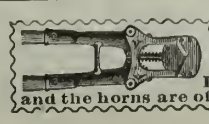

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To keep us going—and so good-day!

A little warmth, a little light
Of love's bestowing—and so good-night!

A little fun to match the sorrow
Of each day's growing—and so good-morrow!

A little trust that when we die
We reap our sowing! And so—good-by!

—George Du Maurier.

Hard Learned Lessons.

Mrs. Lewis was rolling out pie crust in the hot kitchen, and her husband, although it was the middle of the forenoon, was fidgeting about, lookiug here and there rather aimlessly.

"Are you hunting for anything special, Stephen?"

"Well, yes; I'd like to find a buckle somewhere for a bit of harness; don't 'pear to be none."

"I should think not, in the button-box an' the dish-closet. Look around the barn."

"Perhaps I better. Deacon Baxter come along by a spell ago. He's in a kind of worry."

"What's the matter? Somebody sick."

"No, oh, no; ain't anybody sick."

Mrs. Lewis was putting her pies in the oven, and her husband watched her silently. Finally she rose up, and, wiping her heated face, looked at him standing in the door. How queer and uncertain he acted.

"Do tell what it is, then, if you're ready."

"Well, it seems they've got some misunderstandin' about the boarders—about a letter bein' lost—an', thinkin' some wasn't comin', they took others, an' now they've all come, an' two extra ones; an' Deacon says what to do they don't know. He's going to build on a wing 'tween now an' next summer; but that don't help 'em out now, you see."

"Of course not. Why don't they go to Ferris'?"

"Ferris is crowded. They've been over to see."

"They can go away to some place else, can't they?"

"They don't want to. Fact is, Deacon come over to see if we didn't want 'em. It's three young men, and they'll be out of the way 'bout all the time fishin' and sketchin', and they'll pay $7 apiece. Think of that—$21 a week comin' in, an' most all clear profit, what with the quantities of garden stuff, an' early apples for pies, an' berries an' milk an' eggs. Why, that's all city folks wants."

"I know; but think of the work it is an' the time it takes to pick the vegetables an' berries, an' the extra cookin' an' all."

"Yes, of course; farmer folks have to work more or less, anyhow, an' they might as well work to some purpose, seems to me. But you always was so set against summer boarders, Lucy."

"It's been because I ain't felt equal to doin' for 'em. Someway sence the children was took away I haven't had the ambition or strength to drive ahead as I used to; an' it ain't no use, neither. I stood out on your buyin' that last land, for it seemed foolish to go on gitting a big farm an' no one to take it after us; it seemed we better take the money an' make the house more comfortable, an' not work so hard ourselves; an' now you want to take on more work still. I s'pose you told Deacon Baxter we'd take 'em, didn't you?"

"Well, no; I told him I'd see what you said, an', if he didn't hear nothing to the contrary, they might come on over this afternoon. If you won't take 'em at no rate, I'll just hook up an' go over after dinner and tell 'em."

"Oh, dear, I don't know what to do! I'd like the money, of course. I was thinkin' only this morning how I needed a new carpet, an' wishin' that another window was put into the kitchen an' the water brought in, an' some new steps by the back door. Can I have these things done if I take the boarders, Stephen?"

"Why, I s'pose so; but we don't want to be foolish and fritter the money away. John Hinman told me he built that addition to his barn last fall with boarder money; they had six nigh two months, an' never hired a day's work on account of 'em; so it amounted to a nice sum, an' give 'em a big lift."

"Didn't John's wife have any of the money after working so hard all summer?"

"Oh, yes; he told me she had $3 an' got herself a new print dress an' a pair of shoes. Spent it right away for clothes!"

"She ought to have had half the money, at least."

"My goodness, Lucy! that would have been sheer waste. As it was put in the barn, it'll stand to their credit an' good a long time; an' she was agreed to have it so. She's a real helpmate, John's wife is—a very worthy woman; only, of course, no judgment about spendin' money. Come, we must settle our own affair."

"I know I can't spend time enough to think it over as I ought. I s'pose I can try it, an' if I can't possibly stand the work, they'll have to leave, or help be hired."

"Oh, we can't hire them waited on, only three of them; if we had a dozen we might keep a woman an' make it pay. Grashus! how good them pies do smell. You're a wonderful good cook, Lucy. I can't hardly wait for dinner. I'll bring a pail of water 'fore I go."

Left alone, the little woman fairly flew about her work; she had to, for it was nearly eleven o'clock. There were vegetables to put over to cook, butter to work and mould, cottage cheese to make, and the young chickens were crying piteously for a meal. And as the list of things to do lengthened in her mind, she could not see how with but one pair of hands she was ever to get through them all.

Besides the dinner for her husband and two hired men to get and clear away, there would be the two sleeping rooms to put in readiness for the boarders, currants to pick for supper, another cake to make, and also biscuits, for the bread would not hold out till the morrow's baking. And the day was hot.

About five o'clock Deacon Baxter drove up with the three young men with their trunks and wheels. After a pleased survey of their rooms and a hasty settling of their belongings, they hurried down to enjoy the cooling breeze under the maples in the yard, and their hostess, with nervous, tired hands, mixed the biscuits which an hour later they ate with so much relish. Really they enjoyed and praised the supper so much, that the poor little woman felt repaid for all her toil and forgot how tired she was.

The boarders were as little trouble as boarders could possibly be, being off about the fields, or under the maples where they had strung some hammocks, most of the time; and they were so full of fun and life that one could not help a feeling of exhilaration just to hear them, and with their banjo and gay songs they made the old farmhouse seem like a different place entirely.

If the work could have been done to advantage, it would not have been so hard for the poor housewife, but the water had to be brought in a pail, and oh, how much had to be used; the wood sometimes sulked and wouldn't burn, and at other times made a raging furnace of the kitchen. How that longed-for window on the north was needed.

Then she had to set the boarders' table in the sitting-room, which made so many extra steps, and she tried to keep the rooms cool and free from flies, and the peas and beans were a long ways from the house and the berry bushes still farther, so day after day went by with not a moment for absolute rest, and every hour brought new duties. But Stephen was beaming; they were at last keeping summer boarders, and it was scarcely any trouble.

At the end of the first week each one paid Mrs. Lewis the board money. Her husband was not present at the time, and she sat for a little, half dazed at the amouut of money in her hand; but at his entrance she promptly handed him ten dollars and fifty cents.

"There's your half of the board."

"Good land! you don't think of dividin' it up all the time like that, I hope!"

"Why, I thought it would be fair for you to have half. If you don't re'ly want it, I'll keep it, of course. Shall I, Stephen?"

"No, indeed! I'd much better keep the whole of it till it comes into use. They ought to settle with me. I'm head o' the house."

"Has their being here added to your work?"

"No-o, I don't know as it has, to speak of. I brought two pails of water to-day."

"And I've brought twenty. No, Stephen, I've made up my mind, once for all, that I'll keep half the board money for my own or I don't work another day. Right is right, and here I've worked year in and year out and never had a five-dollar uote as wage money, nor a present. I'm tired of toilin' for nothin'."

"Dear me! Don't you have the same as I do?"

"No; I don't have any money to spend or keep, no more than a pauper."

"I hope you ain't losin' your senses complete, Lucy. You ain't never talked so before. I guess you'd better clear up the table an' git kind o' calmed down in your mind."

The summer weeks went by, crowded to the brim with the usual round of work. Mrs. Lewis had kept going. The various things she did between five in the morning and ten at night would tire one even to count. She had adhered to her resolve to divide the income, and her husband took his share with the best grace he might, determined in his own mind to have a voice in the matter when the other part came to be spent. He did not seem to see how thin and pale his wife was looking—pale only when flushed with the stove heat over which she stood so many hours a day. He did not even know how little she ate, or that she slept scarcely at all. He and his men were busy gathering the hay and grain. It was turning out well. All in all, it would sum up a very profitable year.

One morning the latter part of August Mr. Lewis saw a man coming down to the field where he was at work.

"Well, you're busy, friend, I see; but I come to ask if you can't spare a few hours to-morrow to do a ueighborly act. It's to be a pall bearer to a funeral at the brick church and the burial over to the Plains."

"Why, I s'pose I can; but who's dead?"

"John Hinman's wife. Ain't you heard? Dropped just as she was dishing the dinner; never knew a thing more; died at two o'clock. Stroke, the doctor said, brought on by overheating. But then she was worked nigh to death; everybody knows that; house full of boarders every summer, hired men, milk to care for, no help. Well, poor soul! she can rest now. Then we can depend on you to-morrow? All right; be at the house by one o'clock. Hinman's about crazy moaning for his dear wife; but folks don't feel much sorrow for him. He ought to have thought how dear she was sooner, and saved her a little.

Left to himself, Mr. Lewis did some serious thinking. What if it had been Lucy who had dropped down by her seething stove, helpless forever. Why not she as well as that other? He knew at that moment she was baking bread and pies, and the mercury stood at ninety outdoors; what must it be in the kitchen? His interest in his work was gone, and he went up to the house, although it was barely eleven o'clock. His wife paused with a smoking pie in her hand to ask if he felt sick.

"No, not sick; just a little out of sorts; weak like an' shaky; don't want to work."

"It's the heat, Stephen. You better lie down till dinner's ready. I'm hurrying it on."

"I know you be. I got worryin' about it down in the lot, for fear you'd give out. Need you do so much hot days like this?"

"Why, yes; there's the meals just the same, an' all the rest. I can't let up, for it would get ahead of me entirely, the work would."

"Can I help you? Want a pail of water now?"

"No, I just brought some. Things are done enough to take up this very minute, I do believe."

He watched her going so deftly from one thing to another, and hurrying here and there, but he could not tell her just then of Mrs. Hinman's tragic death, and he did not enjoy the well-cooked dinner as much as usual. After it was over, he still lingered about, doing some unaccustomed bits of work, much to his wife's amazement, until he told her about Mrs. Hinman, and then she understood his unworded fear and anxiety.

The next day when he returned from the funeral, he brought with him a strong woman of middle age.

"She's to take the heft of the work off you, Lucy, an' now you see if you can have a little rest an' recruit up some."

But the reprieve came too late to prevent disaster; and for many weeks thereafter the worn-out little woman lay in her bed in the grasp of a slow fever. The doctor came twice a day, and then every day, and it was well on in October when his visits were no longer needed at the farmhouse.

When the bill came in, Mrs. Lewis said she would pay it out of the board money, but Mr. Lewis said it should be paid out of his share, which was speedily done. And Mrs. Lewis still has her half to spend as she pleases.

Gems of Thought.

There is no sweeter repose than that which is brought with labor.—Chamfort.

No wind serves him who addresses his voyage to no certain port.—Montaigne.

Self will is so ardent and restive that it will break a world to pieces to make a stool to sit on.—Cecil.

It is a great mercy to enjoy the gospel of peace, but a greater to enjoy the peace of the Gospel.—Dyer.

It is ever my thought that the most God-fearing man should be the most blithe man.—Thomas Carlyle.

True goodness is like the glowworm in this, that is shines most when no eyes except those of heaven are upon it.—Hare.

The pure in heart see God in everything, and see Him everywhere; and they are supremely blessed.—J. G. Holland.

Patient, hopeful waiting is hard work when it is the only work possible to us in an emergency. But patient waiting is in its time the highest duty of a faithful soul.—H. Clay Trumbull.

When He takes your work away and bids you no longer to do good and obedient things, but only to be good and obedient, surely that is not the death of faith's transfiguration.—Phillips Brooks.

Housekeepers, by the food they provide, by the couches they spread, by the books they introduce, by the influences they bring around their homes, are deciding the physical, intellectual moral and eternal destiny of the race.—T. De Witt Talmage.

Multifarious reading weakens the mind more than doing nothing; it is an excuse for the mind to lie dormant, while thought is poured in and runs through a clear stream, over unproductive gravel, on which not even mosses grow.—F. W. Robertson.

He sets an open path before us; we must walk in it. More, we must be willing to believe that the path is open, and that we have strength to walk in it. God's gift glides into man's choice. It is needful that we should follow with

our effort in the track of his foregoing power.—George McDonald.

You live fast, battling for humanity so many forms of oppression. None know what it is to live, till they redeem life from its seeming monotony, by laying it a sacrifice on the altar of some great cause. There is more happiness in one such hour than in dwelling forever with the beautiful and grand, which Angelo's chisel has redeemed from the 'marble chaos,' or the pencil of Raphael has given to immortality,—Wendell Phillips.

Popular Science.

Before the invention of the barometer and the thermometer, which are the basis of meteorology, there could be no question of weather predictions. Prophetic almanacs existed none the less, but their authors confined themselves to speaking of the influence of the planets or of the signs of the zodiac. They spoke also of the character of individuals who should be born in such or such a part of the year.

Prof. Patrick and Dr. Gilbert of the University of Iowa have recently tried the experiment, which is described in the September Psychological Review, of keeping three observers awake for ninety consecutive hours. The observers did not suffer, although dogs die if kept awake four or five days. The physical and mental condition of the observers were noted during and after the enforced insomnia, and the results are of great scientific and practical interest.

The strangeness of the scenery of the moon, and the enormous size of its crater-shaped mountains, have led some astronomers to think that its past history must have been quite different from that of the earth. This, however, is not the opinion of Messieurs Loewy and Puiseux, who, in a recent communication to the Academy of Scinces in Paris, say that a study of the latest lunar photographs tends to show that the condition of the moon's surface has been produced by the action of the same natural forces now at work on the earth.

Curious Facts.

The general postoffice, St. Martin's-le-Grand, London, contains the largest telegraph office in the world; over three thousand operators, one thousand of whom are women, are employed.

It is reported that Warden Coffin, of the Ohio State prison, is having difficulty in buying an electric plant to carry out the electrocution law. None of the manufacturers will take an order for such a purpose.

A bicycle tire has been invented in which feathers are used. It is contended that, when a puncture occurs, the first tendency is for the down to be carried up into the puncture by the pressure of the air on the inside.

A new German lamp chimney has the bulb in the upper instead of the bottom part and the upper rim is cut obliquely. It is claimed that this shape makes it safer to blow out the light, while the flame is improved by being made taller and steadier.

Runaway horses are unknown in Russia. No one drives there without having a thin cord with a running noose around the neck of the animal. When the horse bolts the cord is pulled, and the horse stops as soon as it feels the pressure on its windpipe.

The oldest wooden building in the world is said to be the church at Borgund, in Norway. It was built in the eleventh century, and has been protected by frequent coatings of pitch. It is built of pine, and in fantastic Romanesque design.

Officials of the Erie Railroad are considering the advisability of establishing the use of horseless carriages in connection with railroad passenger business. The company proposes to arrange matters so that a passenger can telephone the city ticket office, notifying the agent that he wishes to take the train, and a horseless carriage will carry him to the station from his home at the proper time. The maintenance of the vehicles would be practically nothing, and the companys' service would be greatly improved. The scheme will probably be experimented with in New York first.

The moment that a young crocodile breaks its shell it is to all intents and purposes as active as it is at any time during its life. It will make straight for the water, even if it be out of sight and a good distance off, and it will pursue its prey with eagerness and agility during the first hour of its free existence.

There are 70,000 postoffices in the United States, against 20,000 in Great Britain, 25,000 in Germany, 9000 in Austria-Hungary, 7000 in France and 6000 in Italy. The net loss on the postoffice business of the United States amounted last year to $10,000,000, the shortage being made up by appropriation by the Treasury, which has averaged in recent years about $6,000,000. The profit in the English Postoffice Department for the same period was $15,000,000, and other countries of Europe make a profit from the postoffice also. The net revenue in Austria-Hungary was $5,000,000, in Russia $1,000,000, and in France $7,500,000. The revenue of the English Postoffice, including in this amount the revenue from telegrams, which is a Government monopoly in England, was $70,000,000 last year, of which $15,000,000 was from telegrams. The receipts of the American telegraph companies are in excess of $25,000,000 a year, and, if added to the postal receipts, as is the case in England and Germany, would make the revenues of the Postoffice Department over $100,000,000 a year.

Impossibilities Made Possible.

"Impossibilities made possible by means of the modern inventions in the electrical field" furnished the theme of a lecture by Prof. G. Queroult in the Paris Academy of Sciences. During some of his experiments he hit upon the idea to turn around photographic records and also the series of pictures seen through the kinetoscope, respectively the kinematograph. Having photographed a plant at regular intervals and shown in the kinetoscope the growth, the development of the stem, leaves, buds, flowers and fruit, the same consequence of photographic pictures reversed was presented to the eye of the astonished academicians, who wondered at the fruit turning into flowers, flowers into buds, buds drawing back into themselves and disappearing, the leaves closing, getting smaller and disappearing, the stem getting shorter and shorter, until the earth closed over it. The most incredible things are developed before the eyes of a spectator, if a most ordinary series of pictures is reversed. A drinker takes up an empty glass and replaces it full upon the table; a smoker sees the stump of a cigar flying at him from the floor, takes it to his mouth and sees the smoke originate in the room, draws it up to his mouth and into his cigar, which is gradually lengthened and finally replaced in the pocket. A wrestler, who has probably thrown away his garments, is recovered with them by their, so to speak, walking up on him into their places, while he himself performs motions of which we can understand nothing, because we never saw these most ordinary motions performed backward; a man, for instance, seated at a table before an empty plate, works hard taking bite after bite from his mouth, until the chicken is whole again on the dish before him, and the side dishes are also returned full to their respective places. In order to fully enjoy an exhibition of the kinetoscope such an exhibition should be arranged alongside each other, the same scenes in regular order in one machine and reversed in the other. It would be advisable, however, to inform the spectators previous to their looking at such a reversed series of pictures, for otherwise they might think themselves the victim of a dream, a hallucination, or something worse.—American Journal of Photography.

DOMESTIC ECONOMY.

Hints to Housekeepers.

A mustard plaster with the white of an egg will not leave a blister.

Cracker jars made from silver or other metal, with a cover that fits closely, will keep the biscuit fresh longer than those made of china.

To remove a glass stopper from a bottle when it is tightly wedged in, hold the neck of the bottle over a lighted match or place it in hot water a few moments. Heat will expand the glass.

A French method of cleaning kid gloves is to put on the gloves and wash them well in spirits of turpentine, exactly as in washing the hands. The fingers and soild parts must be well rubbed, and when the gloves are taken off they must be stretched and allowed to dry, hanging in a strong current of air.

The jammed finger should be plunged into water as hot as can possibly be borne. The application of hot water causes the nail to expand and soften, and the blood pouring out beneath it has more room to flow; thus the pain is lessened. The finger should then be wrapped in a bread and water poultice. A jammed finger should never be neglected, as it may lead to mortification of bone.

To restore the tarnished surface of a piano, wipe it with a dampened chamois skin and dry with a soft cloth. Then moisten another cloth with a few drops of equal portions of sweet oil and spirits of turpentine, and polish well. If the keys are yellow rub them with alcohol and water. The alcohol causes quick evaporation, and that is better for the ivory. Do not allow a piano to stand near a stove or register.

To clean white veils, make a solution of white castile soap and let the veil soak in it fifteen minutes. Then press it between the hands in warm water and soap until clean. Rinse in clear water, then pour boiling water on a teaspoonful of starch, soak the veil in it for a few minutes, and then clasp it between the hands until nearly dry. Spread a towel over a pillow and pin the lace in each point smoothly over it and let it remain until perfectly dry.

Many complain that they cannot drink milk without its disagreeing with them. The most common reason why milk is not readily digested is that it is taken too rapidly, and it enters the stomach and becomes one solid mass, difficult of digestion. If it is sipped it is so divided on reaching the stomach that when coagulated, as it must be by the gastric juice while digestion is going on, instead of being in one hard mass it is more in the form of a sponge, and in and out of the entire bulk the gastric juice can perform its duties.

A bottle of sweet oil is the housewife's friend. Few know of the many uses to which it may be put. It will clean bronzes; After carefully rubbing them with oil, they should be polished with chamois skin. In laying knives away, apply a little sweet oil very lightly, and wrap them in tissue paper; this will prevent their rusting. For inflammatory rheumatism dissolve in a pint of sweet oil one ounce of pulverized saltpetre, and thoroughly rub the parts affected. Sweet oil will clean metals; rub the metal with flannel cloth and wash off in warm soapsuds. A bottle contaning two parts of oil to one of lime water will be found excellent for sunburn.

Domestic Hints.

Mutton Mince.—A delicious mutton mince is made as follows: Mince two onions and fry them in a tablespoonful of butter. Add three half-pint cups of minced mutton, a cup of chopped potatoes, a tablespoonful of salt and one teaspoonful of pepper. Stir well and add half a cup of stewed tomatoes and a tablespoonful of minced parsley. Stir in now a cup of rich brown gravy or sauce and cook very slowly for twenty minutes on top of the stove or in the oven. Roll the hash out on a hot platter, sprinkle it with minced parsley and serve at once. A dish of spiced currants or currant jelly is the appropriate accompaniment of this dish.

Mustard Pickle.—One quart each of small whole cucumbers, large cucumbers sliced, green tomatoes sliced, and small button onions, one large cauliflower divided into flowerets, and four green peppers cut fine. Make a brine of four quarts of water and one pint of salt, pour it over the mixture of vegetables and let it soak twenty-four hours. Heat just enough to scald it, and turn into a colander to drain. Mix one cup of flour, six tablespoonfuls of ground mustard and one tablespoonful of tumeric with enough cold vinegar to make a smooth paste, then add one cup of sugar and sufficient vinegar to make two quarts in all. Boil this mixture until it thickens and is smooth, stirring all the time, then add the vegetables, and cook until well heated through.

Banana Snow.—Fruit jellies are always attractive, and at this season one can use oranges and bananas with good effect. To make banana snow, pour one pint of boiling water on one-third of a box of gelatine; add the juice of one lemon and two cups of sugar; when nearly cold, strain; add the whites of three eggs beaten to a froth; beat the whole together, put in a mould, adding slices of bananas which have been carefully peeled and prepared beforehand, and set it on the ice to cool. To the three yolks of eggs add one pint of milk, two tablespoonfuls of sugar, one teaspoonful of cornstarch; flavor with vanilla or essence of lemon, cool it, and pour this custard around the mould of snow when it is served.

Tomato Salad.—Cut large, round tomatoes of uniform size in halves. Scoop out the pulp without breaking the skins. Cut several slices of cold tongue into small dice, mix them with the tomato pulp and juice, add a little salt, cayenne, oil and lemon juice. Fill the tomato skins and keep them on ice. Serve on a crisp leaf of lettuce.

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1004—Fulda Cloak.

Sizes for 8, 10 and 12 Years.

This handsome and becoming cloak is made of rainproof blue cloth of medium weight, which can be worn whether it rains or shines. It is tight-fitting in the back and half loose in the front. The cape and its large hood are lined with bright, plaided silk. The edges of the coat may be finished with rows of narrow braid or machine stitching. The cape is made separate from the long coat and is a convenient wrap in itself for mild weather. Cloth light or heavy in weight, also of the popular waterproof fabrics, may be used for the model.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

A RAINY DAY OR OUTING COSTUME.

990.—Ogontz Coat.

Sizes for 34, 36, 38 and 40 inches bust measure.

A standard design, so becoming and convenient that the most conservative woman cannot fail to admire it and recognize its practical value. Our illustration shows a gown of iron-gray cravenette, which is rain-proof, and of a medium weight, which adapts it to all seasons. The skirt is the "Comfort," described below. The trimly fitted coat has the usual seams in the back, but is without ripples. A little fullness is added by plaits under the side seams. The front may be buttoned snugly to the throat, or left open, as preferred. It is lined with changeable silk, and the blouse worn beneath it is made of the same silk. The hat is made of cravenette, to match the costume.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

991.—Comfort Skirt.

Sizes, medium and large.

This skirt has but four breadths, fitting trimly around the waist, with a little fullness in the back, held in box plaits, and measuring three yards and a quarter at the foot. It is lined throughout, and has a six-inch facing of cravenette, to protect the lining and keep the bottom dry. The skirt fastens on the left side of the front, under a button-trimmed strap, thus avoiding any possibility of a gaping placket in the back, and on the right side there is a pocket. Underskirts are, of course, omitted, and knickerbockers of silk, mohair or pongee take their place. This skirt is an excellent model for bicycling, golf, mountain climbing and general outdoor wear.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

Fashion Notes.

Quite a new idea in dress trimmings comes in ingenious designs which look as if appliqued on the bodice; for instance, criss-cross effects in ribbon, which would be an endless task to measure and sew together, may be bought ready to stitch on the waist, thus saving many an hour's labor in dressmaking. What with charming displays of autumn and winter dress fabrics, lovely hints of coming styles in millinery and suggestions in all sorts of novelties in dress trimmings, the stores present a most attractive scene.

Bustles, called by elegant modistes tournures, are indispensable in the new skirts, and, prejudice apart, are a graceful addition to the figure of the over slight woman as well as to the "set" of the modish gown.

Black neck ruchings are extremely modish for autumn wear, given just the degree of warmth necessary.

Collets of black ostrich feathers, with a deep Stuart collar of tiny curled tips, make a very smart finish to a dressy toilette.

Lace jabots will be a feature of dressy autumn gowns, so if you are the happy possessor of a length of point d'Alencon or Brussels lace, send it to the cleaners and have it ready to utilize on your smartest bodice.

There will be a veritable craze for handsome galloons and embroideries during the coming season, and when milady buys her winter gown it will not only be a matter of material and silk lining, as heretofore, but that the trimming as well, a most important item in point of expenditure.

Only a woman who rejoices in a slender figure should venture to wear a belt of pronounced color. The pretty red ones, now so popular, draw attention to the waist line, and are anything but charitable to one whose inches measure more than—well, say just the proper number.

Another novelty for the first cool days are shirt waists of fine cloth in fancy stripes and checks finished with linen collars and cuffs.

A Hardy Pioneer.

Talks of Early Life in the West and His Battle With Disease.

From the Graphic, Newberg, Oregon.

Mr. Sebastian Brutscher, of Newberg, Oregon, was a forty-niner. He has been a resident of Yamhill county ever since, serving many years as County Commissioner, and has always been a reliable public servant. He is now seventy years old. The exposure and hard work incident to pioneer life has most seriously affected Mr. Brutscher's health. Of late years he has suffered with rheumatism, lung trouble, constipation and piles, a general run-down condition of the system and loss of memory. After many physicians had failed to render him any assistance he began on Dr. Williams' Pink Pills with the result—as he says they have done him more good than all other remedies combined—his system is built up, rheumatism gone, bowels regular, and he feels bright and younger by several years: his memory is restored, has no trouble to speak names readily, and this of itself is a great satisfaction to him. He says he can recommend them to any one similarly afflicted, believing they will be greatly benefited by their use.

John D. Boatman, a farmer, living one mile from Newberg, is a veteran of the late war. He enlisted for three years and after his discharge at the expiration of that time re-enlisted and served to the end of the war. He was a member of the Fourteenth Regiment Cavalry, Kansas Volunteers, and is now a member of the Kilpatrick Post, G. A. R., at Newberg, Oregon.

In an interview Mr. Boatman said he had kidney trouble from the time of coming out of the army. Later he had rheumatism, nervous trouble and general debility; has been treated for a long time by two as good physicians as there are in Yamhill county, all without avail. His money was all spent, his time was gone and he was in a worse condition than before.

He had heard of a remarkable cure in this county by the use of Dr. Williams' Pink Pills for Pale People, so two years ago bought two boxes of the pills and began using them according to the directions. He was soon convinced that he had struck the proper remedy. He was soon free from pain, nerves steady and felt so well that after he had taken the pills for a time he thought himself cured permanently. But from exposure and hard work he found that he had discontinued their use too soon, so he bought more, took them, and now considers himself well and is able to do any farm work required. He does not take any of the pills now, but keeps a box of them in the house all the time, however, and says he will never be without them if he has to sell a horse to get the money with which to buy them.

John E. Smith, a respected citizen of Newburg and prominent member of the Methodist church, who came to Oregon from the Mississippi valley some years ago, has been afflicted nearly all his life with liver and nervous troubles, neuralgia, etc. He has taken great quantities of medicine with but little effect. Some time ago he bought some of the Pink Pills and now says he has received more real benefit from them than all other medicine he has ever taken.

These testimonials are given voluntarily by conservative and truthful men, each one saying that he would not misrepresent the facts, nor would he try to deceive anyone, but they have simply given the result of their own experiment with the pills, with which they are well satisfied. J. C. SAWYER, *Postmaster*, Newburg, Oregon.

This is to certify that I am acquainted with the persons making the above testimonials, and that they are representative and reliable citizens of this community, and, knowing nothing to the contrary, believe their statements made herein to be true.
A. M. HADLEY, REPORTER, Newburg, Oregon.

Dr. Williams' Pink Pills contain, in a condensed form, all the elements necessary to give new life and richness to the blood and restore shattered nerves. They are an unfailing specific for such diseases as locomotor ataxia, partial paralysis, St. Vitus' dance, sciatica, neuralgia, rheumatism, nervous headache, the after effect of la grippe, palpitation of the heart, pale and sallow complexions, all forms of weakness, either in male or female. Pink Pills are sold by all dealers, or will be sent post paid on receipt of price, 50 cents a box or six boxes for $2.50 (they are never sold in bulk or by the 100), by addressing Dr. Williams' Medicine Company, Schenectady, N. Y.

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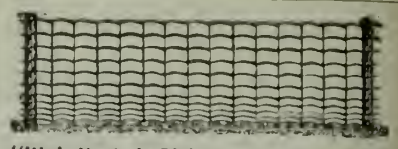

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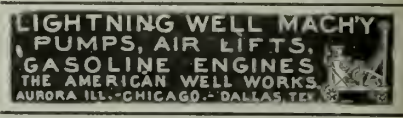

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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Oct. 28, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	87,119	2,215,242	1,492,664
Wheat, ctls	552,799	4,876,313	3,155,883
Barley, ctls	165,398	2,717,150	1,461,022
Oats, ctls	22,664	201,840	256,772
Corn, ctls	....	43,250	38,731
Rye, ctls	2,605	25,121	13,281
Beans, sks	69,648	246,904	183,292
Potatoes, sks	26,409	357,143	356,501
Onions, sks	4,127	59,102	49,659
Hay, tons	2,987	64,858	62,385
Wool, bales	3,657	23,599	30,917
Hops, bales	514	4,203	5,460

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	103,320	1,786,244	1,032,451
Wheat, ctls	499,576	4,622,170	3,189,107
Barley, ctls	165,253	1,984,851	1,005,446
Oats, ctls	75	9,792	8,969
Corn, ctls	86	4,339	7,644
Beans, sks	12,933	147,666	89,001
Hay, bales	462	15,606	16,900
Wool, lbs	....	3,488,112	6,219,200
Hops, lbs	37,802	362,647	469,482
Honey, cases	402	1,204	4,805
Potatoes, pkgs	1,644	30,902	51,381

Grain Freights and Charters.

Most of the ships which have been added to the grain loading fleet lately have represented prior arrival charters, the figures secured being in most instances better than could be realized at this date. One iron ship came into port under engagement for wheat loading at £1 11s 3d, net, to Cork for orders, usual option, which figure is fully 3s 9d above rates now quotable, making a difference of about $1800 in the freight money of the vessel in question. A spot charter of a handy iron ship was reported at £1 5s for wheat to London direct, which may be regarded as a full figure at this date.

Charters.

British ship Socotra, 1597 tons, wheat to U. K., Havre, Antwerp or Dunkirk; £1 7s 6d; direct port, £1 6s 3d, chartered prior to arrival.

British ship Bay of Bengal, 1480 tons, wheat to Cape Town; £1 6s 3d, chartered in England.

French bark Lamoriciere, 1471 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d; direct port, £1 6s 3d, chartered prior to arrival.

British bark Ladas, 1291 tons, wheat to U. K., Havre, Antwerp or Dunkirk; £1 11s 3d, net, chartered prior to arrival.

British steamer Glenesk, 2274 tons, wheat to St. Vincent for orders; £1 8s 9d; if to two ports, £1 10s, chartered prior to arrival.

British ship Miltiades, 1452 tons, wheat to London; £1 5s.

British bark Invercoe, 1322 tons, wheat to Cork, U. K., Havre, Antwerp or Dunkirk; £1 7s 6d; direct port, £1 6s 3d, chartered prior to arrival.

British ship Cockermouth, 1297 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 10s; direct port, £1 8s 9d, chartered prior to arrival.

British ship City of Glasgow, 1120 tons, now at Tacoma, wheat to Cork, U. K., Havre, Antwerp or Dunkirk, £1 9s, net.

British ship Drumcraig, 1851 tons, now at Tacoma, wheat to Cork, U. K., Havre, Antwerp or Dunkirk, £1 8s 3d, net.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive.
1896	78,589	34,050	245,888
1895	53,543	6,536	301,872

Flour.

There have been further changes in quotable values for this product during the past week. The general tone has been much easier than immediately preceding last review, but it was the exception where dealers showed any willingness to part with holdings at any material reduction from the last quoted decline, and current quotations are fully up to the best figures which have been realized. To have effected free sales, however, the acceptance of somewhat lower prices would have been necessary.

Superfine, lower grades	$2 65@2 90
Superfine, good to choice	3 00@3 25
Country grades, extras	3 75@4 00
Choice and extra choice	4 00@4 25
Fancy brands, jobbing	4 25@4 37½
Oregon, Bakers' extra	3 75@4 00
Walla Walla, Bakers' extra	3 75@4 00

Wheat.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	5s 5d@5s 6d.	7s 2d@7s 3d.
Freight rates,	27½@28¾s.	26¼@27½s.
Local market,	$0.97½@$1	$1.30@1.35

The prices above are for spot lots of standard No. 1 California in Liverpool, and for good to choice shipping in this city.

The speculative arena for wheat dealings has been the scene of some wild antics during the week under review, the excitement at times being fully as pronounced as for a week or two preceding, when, it will be remembered, there were some exceedingly heavy fluctuations experienced in values. Immediately following the date of our last report, there was a decided weakness developed here in the option on Call Board market, December wheat declining to $1.33. The next day the same option moved up to $1.39 about as rapidly as it had previously dropped, which in turn was followed by another heavy break, the option in question selling down to $1.31. The actual conditions, as regards available supplies and the requirements of importing countries, developed no changes during these sharp fluctuations in the speculative market. The speedy advances and sharp declines were one of the sequences of the manipulations of heavy operators, this time principally on the Chicago Board, aided involuntarily by plungers elsewhere of more or less magnitude, much of the small-fry, as is customary in such cases, being wiped out like moths by a flame. With this bounding back and forth of speculative prices, the sample or spot market was decidedly unsettled, and little was done in actual wheat, both buyers and sellers being at a loss to know how to proceed. There was a little more steadiness Monday, with indications that the decline had been effectually checked. It does not seem probable that spot values can be forced materially below current levels. Two ships were cleared this week with wheat cargoes for India, and one ship was placed to load wheat for South Africa. The movement to Europe continued fairly active. Tuesday there was further weakness developed in speculative values, but there was a decided recovery Wednesday in Chicago, followed by a better feeling and stiffer prices here, both on and off Call Board. Options in the local market recovered 4½@5c. from lowest figures of previous day, and values in the sample market were correspondingly firmer.

California Milling	$1 35	@1 40
Cal. No. 1 shipping, alongside	1 30	@1 35
Oregon Valley	1 30	@1 35
Walla Walla Blue Stem	1 20	@1 37½
Walla Walla Club	1 20	@1 30

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, $1.28¾@1.39.

May, 1897, delivery, $1.32½@1.43⅛.

Wednesday, at regular noon session of Call Board, December wheat sold at $1.30¼@1.33¼; May, $1.34@1.37⅞.

Barley.

Further liberal shipments of this cereal were made to Europe the past week. The first steamer in the current season's grain fleet, clearing from this port on July 31st with 4850 tons of barley for Scotland, was abandoned on the 12th inst. The market has continued much the same as previous week, so far as quotable values were concerned, but the general tone was not so firm. The demand which existed was more for the best qualities of feed than for brewing grades, and the former sold to relatively better advantage than either standard brewing qualities or low-grade feed. At the close the market showed less activity and less strength than for some days preceding; but with a renewal of the demand, prices would soon recover.

Feed, No. 1 to choice	77½@82½	
Feed, fair to good	75	@80
Brewing, No. 1 to choice new	82½@87½	
Chevalier, No. 1 to choice	1 05@1 15	
Chevalier, No. 2	72½@90	

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, 78@87¾c; May, 1897, delivery, 88@94c.

Wednesday at regular noon session of the Call Board, December feed sold at 78@79⅞c; May, 89@89½c.

Oats.

There are no heavy quantities offering of any description, and especially are Gray and Surprise oats in exceedingly limited stock. Choice Black and Red, suitable for seed, also make a slim showing. Market is moderately firm at the recently recorded advance, with spot supplies mainly in few hands, competent to handle them as advantageously as possible.

White Oats, fancy feed	1 20	@1 25
White, good to choice	1 15	@1 20
White, poor to fair	1 00	@1 05
Gray, common to choice	1 05	@1 15
Milling	1 15	@1 20
Surprise, good to choice	1 15	@1 25
Black Russian	1 15	@1 25
Red	95	@1 05

Corn.

Not much corn of any sort coming forward; but with the demand still rather sluggish, and almost wholly local, the development of any noteworthy firmness is rather difficult. The tendency of the market, however, has been rather more favorable to the producing interest than otherwise. Should any special activity set in, it is almost certain that values would materially improve.

Large White, good to choice	85	@ 90
Large Yellow	85	@ 90
Small Yellow	97½@1 02½	

Rye.

A part cargo of 1915 tons of this cereal, valued at $33,411, was cleared for Antwerp on Saturday last. Market is firm at the quotations, with offerings of light volume.

Good to choice, new	1 07½@1 12½

Buckwheat.

No changes of moment have been developed in market for this product since last review. Desirable qualities are in request at the rates quoted.

Good to choice	1 20	@1 25
Silverskin	1 25	@1 30

Beans.

A New York authority of late date has the following concerning the Eastern bean market, prices quoted being per bushel of 60 lbs.:

The export demand this week has been much lighter, but a very fair home trade has been in progress and the market has held quite firm on most varieties. Reports have not been large and a further reduction in the local holdings makes the position better and safer than it has been for a long while. Nearly two cars of new State Marrow have jobbed out at $1.60; about as many more sold early in the week in round lots to arrive at $1.55, but there are no more offering at that price. Choice bright old stock sells very generally at $1.50, and is steady. Scarcely any new Medium here as yet, and not many old; the latter have gone mainly at $1.25, but are strong at that. New and old Pea have sold together at $1.25, the latter showing up about as well as the new. White Kidney have advanced to $1.50 under a scarcity of stock; buyers are still looking for them. A few sales of Red Kidney early in the week at $1.30 established that as the general asking rate, but export orders were light and the competition to secure them led to a shading of 2½c in instances. As a rule confidence is felt in these beans at present prices. There is hardly a settled market for new as yet. Turtle Soup are practically gone and we omit the quotation. Yellow Eye slow. California Lima have had less demand since the advance to $1.50. Lady Washington have attracted more attention; a line of 500 bags sold several days ago to a European exporter at $1.10, and 1,000 bags or more have since been taken by local and out-of-town jobbing houses at $1.15@1.20. Green peas are running dull, but Scotch have a moderate inquiry.

The demand on shipping account has been less active than during preceding week, and speculative purchasing by local operators has also been of a slower order. The decreased business was partly due to the recently advanced views of holders, with somewhat lighter receipts and an almost entire absence of pressure to realize. The general tone of the market, however, has not been quite so firm as at date of preceding review.

Pea, fair to good, 100 lbs	$1 40	@1 65
Small White, good to choice	1 35	@1 50
Lady Washington	1 35	@1 45
Butter, small	1 25	@1 40
Butter, large	1 50	@1 60
Pinks	1 15	@1 40
Bayos, good to choice	1 35	@1 50
Reds	1 15	@1 30
Red Kidneys	2 00	@2 25
Limas, good to choice	1 90	@2 10
Black-eye Beans	1 15	@1 30
Horse Beans	75	@ 90
Garbanzos, large	2 25	@2 50
Garbanzos, small	1 40	@1 60

Dried Peas.

Business in this article is of a light order, and at no improvement on previous figures. A small invoice of Yorkshire Hero, a little soft owing to premature picking, but otherwise unobjectionable, was placed at $1.50. Local mills are now importing most of their Dried Peas from the East.

Green Peas, California	$1 15	@1 30
Niles Peas	1 15	@1 30

Wool.

While not quotably lower than last noted, and the general tone of the market rather more encouraging to the producing interest than early in the season, the market has ruled quiet since last issue, with every prospect of so continuing for a week or so more, or until after the Presidential election, now near at hand. Choice Spring or free Fall wools are not now offering in large quantities, most holders expecting to realize better prices later in the season.

SPRING.

Humboldt and Mendocino	—	@—
Northern California free	—	@—
Northern defective	—	@—
San Joaquin Foothill, good to choice	—	@—
San Joaquin, 12 months	—	@—
San Joaquin and Southern, 6 months	—	@—
Nevada, as to condition	7	@ 9
Oregon Valley, select	9½@11	
Oregon Valley, low grade	8	@ 9½

FALL.

Northern California free	5½@ 7	
Northern defective	4½@ 6	
Middle Counties free	6	@ 6½
Middle counties defective	5½@ 6	
San Joaquin and Southern	3½@ 5	

Hops.

State mail advices furnish the following review of the New York hop market:

Conditions are evidently changing a little and the position of the market on fine goods is firmer than it has been for some time past. The volume of business on the local market is not large, possibly because of the limited quantity of such stock as is wanted. Inquiries from across the water are much more numerous and shippers would pay 10½@11c for strictly choice lots of either State or Pacific Coast. English markets have been doing better of late and this has turned shippers' attention this way. Brewers have noted the increasing interest of exporters and have lately been more willing to look at samples, with some business resulting. The strength of the market, however, is confined closely to fine goods. Everyone seems to think that there is an abundance of under grade stock, and this will be the last to feel any improvement. Old hops are also moving very slowly, though values for choice show a slight hardening tendency. Fair sales are reported in the interior of this State, but buyers are culling over the growth and picking out the best. The more we see of the new State crop the more we are convinced of the generally poor quality; a few fine growths are in the best sections but these are either not offering at present or held for a higher price. Considerable activity is reported on the Pacific Coast, with sales of best lots at 7¼@8c.

There is some inquiry for strictly choice hops, and such are salable to fair advantage, as compared with prices which have been lately current. Lower grades are not being sought after. The demand is mainly for Europe, the crop there, particularly in Germany, having been damaged more or less in maturing. Prices are still too low to afford much encouragement to producers.

Fair to choice, 1896 crop	7½@10

Hay and Straw.

The hay market since last report has relapsed into much the same dull and weak state as existed about a fortnight ago, before there was any improvement in values. Market for common qualities has been especially unfavorable to sellers, with an excess of offerings as compared with immediate requirements.

Wheat	8 00@11 00
Wheat and Oat	6 50@10 00
Oat	6 00@ 8 50
Barley	6 00@ 8 00
Clover	5 00@ 7 50
Stock Hay	4 50@ 5 50
Alfalfa, first cutting	4 50@ 5 50
Alfalfa, second cutting	6 00@ 7 00
Compressed	6 00@ 9 50
Straw, ℔ bale	35@ 45

Millstuffs.

Market has presented a little easier tone for bran, with supplies tolerably liberal, especially from Northern points. Middlings were rather firmly held. Values for other millstuffs remained close to figures last quoted.

Bran, ℔ ton	12 00@13 50
Middlings	16 00@18 00
Barley, Rolled	18 00@18 50
Cornmeal	20 00@20 50
Cracked Corn	20 50@21 00

Seeds.

The Mustard Seed market is showing more firmness than at any previous date this season, with improved demand. A wheat vessel clearing this week took 882 centals Mustard seed for Hamburg. Prospects are there will be further shipments to Europe this season. Flaxseed remains quotably as before given in these columns, with not much offering. Alfalfa continues favorable to buyers.

	Per ctl.
Mustard, Yellow	2 00@2 25
Mustard, Trieste Seed	3 00@3 25
Mustard, Wild Brown	2 25@2 50
Flax	1 40@1 65
	Per lb.
Canary	2¾@3
Rape	2¼@2½
Hemp	3¼@3½
Alfalfa, Utah	5½@6

Bags and Bagging.

There is virtually nothing doing in the Grain Bag market, either for spot or forward delivery. Owing to advanced rates for jute in the markets of India, importers find it impossible to make purchases as advantageously to themselves as last season.

Grain bags, 22x36, spot	4¼@ 4½	
Wool sacks, 4 lb	.28	@—
Wool sacks, 3½ lb	.26	@—
Gunnies	9	@—
Bean bags	4	@ 4¼
Fruit sacks, cotton	5½@ 7½	

Hides, Pelts and Tallow.

The tendency on hides has been to firmer figures, with prospects of improved prices being realized in the near future. Pelts and

tallow are without noteworthy changes in quotable values or general tone of the market.

	Sound.	Culls.
Heavy Steers, over 56 lbs	— @ 7	— @ 6
Medium Steers, 48 to 56 lbs	— @ 6	— @ 5
Light Steers, under 48 lbs	— @ 5	— @ 4
Heavy Cow Hides, over 50 lbs.	5 @ 5½	4 @ 4½
Light Cow Hides, under 50 lbs.	4½@ 5	3½@ 4
Wet Salted Kip	5 @ 5½	4 @ 4½
Wet Salted Veal	— @ 6	— @ 5
Wet Salted Calf	— @ 7	— @ 6
Dry Hides, round lots, 8@10c	10 @10½	7½@ 8
Dry Kip and Veal, 11 to 16 lbs	— @9	6½@ 7
Dry Calf, under 4 lbs	— @15	— @10

Horse Hides, large	75@1 00
Horse Hides, medium	50@ 75
Horse Hides, small	25@ 50
Colts' Hides	—@ 25
Pelts, long wool, per skin	50 @60
Pelts, medium, per skin	40 @50
Pelts, short wool, per skin	20 @35
Pelts, shearling, per skin	10 @15
Deer Skins, best summer	20 @25
Deer Skins, good medium	15 @20
Deer Skins, thin winter	7 @ 9
Elk Hides	7½@ 9
Tallow, good quality	2½@ 3
Tallow, No. 2	2 @—
Goat Skins, perfect	20 @35
Goat Skins, damaged	10 @20
Kid Skins	5 @—

Honey.

This market continues in all essential particulars the same as previously quoted. Spot supplies are light, and are largely comb in 1-lb frames. There is little honey now remaining in the interior.

White Comb, 1-lb frames	10 @—
Amber Comb	7½@ 9
Extracted, White Liquid	5 @ 5½
Extracted, Light Amber	4½@ 5
Amber Colored and Candied	3¾@ 4¼
Dark Tule	2¾@ 3

Beeswax.

Market is firm for choice to select, this sort being in request on European and local account at full current figures. Defective qualities are slow of sale at rather low prices.

Fair to choice, ₱ lb	24 @27

Live Stock and Meats.

Demand for medium size and large hogs is sufficient to absorb all offerings, and market is fairly firm at prevailing rates. Small hogs continue to be neglected. Beef and mutton remain quotably as last noted. Following are wholesale rates:

Beef, 1st quality, dressed, net ₱ lb	5 @—
Beef, 2d quality	4 @ 4½
Beef, 3d quality	3½@—
Mutton—ewes, 4@5c; wethers	5 @5½
Hogs, bard grain fed, medium size, fat	3 @ 3½
Hogs, large hard	3 @ 3½
Hogs, soft and feeders	— @—
Hogs, country dressed	3¾@—
Veal, small, ₱ lb	5 @ 6
Lamb, spring, ₱ lb	5 @ 6

Poultry.

There were large quanities of common qualities carried over from preceding week, with the market for such stock in anything but encouraging shape for sellers. Eastern poultry is now arriving at the rate of three carloads per week, and, being larger and fatter than the domestic, is given the preference. Poultry raisers in this State and Oregon should give more attention to turning out large and fat fowls, such are sought after for table use. In no other way can the market for home grown poultry be placed in generally satisfactory shape. Arrivals of domestic this week showed some decrease, but offerings of other than Broilers and Large Hens continued ahead of requirements.

Turkeys, live hens, ₱ lb	12@ 13
Turkeys, live gobblers	13@ 14
Turkeys, large young	14@ 15
Hens, Cal., ₱ doz	3 50@4 50
Roosters, old	3 50@4 00
Roosters, young, (full-grown)	3 50@4 50
Fryers	2 75@3 25
Broilers, large	2 75@3 25
Broilers, small	2 25@2 50
Ducks, young, ₱ doz	3 00@4 00
Ducks, old	3 00@3 50
Geese, ₱ pair	1 25@—
Goslings, ₱ pair	1 50@1 75
Pigeons, Old, ₱ doz	1 00@—
Pigeons, Young	1 50@1 75

Butter.

There were no large stocks of fresh butter on market the past week, and especially were there light supplies of strictly choice to select, such commanding fully as good figures as during preceding week. Prospects are favorable, however, for an increased output of fresh at an early day. A large number of cows have already calved in the dairy districts of the bay counties, and the fresh grass season promises to open early. Market for packed butter presents an easy tone.

Creamery extras, ₱ lb	25 @—
Creamery firsts	23 @24
Creamery seconds	22 @23
Dairy select	22½@—
Dairy seconds	15 @17
Dairy, soft and weedy	— @—
Mixed store	11 @13
Creamery in tubs	15 @16
Pickled roll	15 @16
Dairy in tubs	14 @15
Firkin, Cal., choice to select	14 @15
Firkin, common to fair	11 @12½

Cheese.

There is very little fancy new, rich in body and mild in flavor, now on market. Such is going to special custom at comparatively stiff prices, more than is quotable in a regular way, and is more readily placed at the higher figures than are ordinary qualities at the lower quotations. Of held cheese and common new there is no scarcity.

California fancy flat, new	9 @10
California, good to choice	8 @ 9
California, fair to good	7 @ 8
California, "Young Americas"	8 @11

Eggs.

No changes of special moment have occurred in this market since last report. Choice to select fresh continue in light stock, and command firm figures, some faultless stock selling up to 40c per dozen in a small way. It is not likely that materially higher figures will be realized this season. The vast majority of consumers cannot see their way clear to pay above figure, and are running largely on cold storage eggs, local product and Eastern, which are in liberal supply and are offering at comparatively easy rates.

California, select, large white and fresh	36 @—
California, select, irregular color & size	30 @34
California, good to choice store	25 @28
California, common to fair store	18 @23
Oregon, prime	— @—
Eastern, as to section and grading	24 @28
Eastern, seconds	18 @20
Duck eggs	25 @—

Vegetables.

Offerings in this line are showing a decrease both as to variety and quantity. Onions have, however, remained favorable to buyers. Such changes as have been effected in the values of other vegetables quoted herewith have been in the main to firmer figures.

Asparagus, Fancy, ₱ box	—@— —
Asparagus, common to good, ₱ box	—@— —
Beans, String, ₱ sack	—@— —
Beans, Wax, ₱ lb	—@— —
Beans, Garden, ₱ lb	2½@ 3
Beans, Lima, ₱ lb	2@ 3
Cabbage, choice garden, ₱ 100	50@ 60
Cauliflower, ₱ doz	40@ 50
Corn, Alameda Sweet, ₱ crate	1 00@ 1 25
Corn, Berkeley, ₱ crate	50@ 75
Corn, Green, ₱ sack	—@— —
Corn, Vacaville and Winters, ₱ crate	—@— —
Cucumbers, Alameda, large box	25@ 40
Egg Plant, ₱ box	25@ 40
Garlic, ₱ lb	1½@ 2
Okra, Green, ₱ box	50@ 75
Onions, Red, ₱ cental	—@ —
Onions, Yellow, good to choice	25@ 32½
Peas, Green, ₱ lb	2@ 3
Peppers, Green Chile, ₱ box	25@ 50
Pepper, Bell, ₱ large box	40@ 50
Pickles, No. 1, ₱ 100 lbs	—@— —
Pickles, No. 2, ₱ 100 lbs	—@— —
Rhubarb, ₱ box	—@ —
Squash, Summer, ₱ large box	50@ 1 00
Squash, Cream, ₱ box	20@ 35
Tomatoes, River, per large box	—@ —
Tomatoes, Bay, ₱ box	25@ 50

Potatoes.

Stocks of more common qualities of potatoes, such as are principally received from the Sacramento river district, continue sufficiently plentiful to give buyers the advantage. Choice to select Burbank Seedlings are not in large supply, and market for these is ruling moderately firm at unchanged quotations. Sweet Potato market was tolerably well stocked and was devoid of noteworthy firmness.

IN SACKS

Early Rose, River, ₱ cental	20@ 30
Peerless, River	—@ —
Reds, River	35@ 50
Garnet Chile, Mission	40@ 50
Burbanks, River	20@ 35
Burbanks, Salinas	60@ 90
Burbanks, Oregon	50@ 75
Sweet Potatoes	75@1 15

The Fruit Market.

Fresh Fruits.

There has been a marked decrease in the receipts of fresh fruits during the week under review, in a great measure due to the advanced stage of the season, but partly owing to the heavy and general rainstorm of Monday, which did considerable damage to all exposed fruits, particularly to the more delicate kinds, such as berries. The market showed more firmness than at date of last report, such changes as are made in quotations being almost without exception to higher prices.

Apples continued in fairly liberal supply, but offerings were principally only common to fair quality, and for these lower grades the market was devoid of firmness. Strictly fancy, free from worms or other blemish, and carefully packed, four tiers to the box, were in light stock and salable to tolerably good advantage, commanding fully as high prices as were obtainable at any previous date since the opening of the present season.

Grapes, of both table and wine varieties, are showing a decided reduction in spot supplies, and there is every likelihood of receipts proving light in the aggregate from this time forward until the close of the season. Prices are higher for table grapes and the market is firm for wine stock, but the improvement is less marked than many would look for under the circumstances. One check to any radical advance in values at present is that consumers have lately had more or less of a surfeit of this fruit.

Pears of the late varieties are making a fair showing as to quantity, but include few sufficiently attractive to draw forth much competition from buyers. Winter Nelis are most in favor, and such as are large and sound, free from worms and rust, bring about $1 per regular size box, and occasionally more in a small way.

Quinces are in exceedingly light receipt, and for desirable qualities the market is favorable to sellers.

Peaches are virtually out of market and no longer quotable. Persimmons of the cultivated varieties are beginning to arrive, but have not yet attracted much attention from consumers. Pomegranates are offering in only very moderate quantity, but the inquiry is lighter than the supply.

Berries of the few sorts now in season arrived very sparingly most of the week, and the tendency of prices was to more firmness, but the inquiry was not sufficiently active to cause values to harden to any very marked degree.

Apples, fancy, 4-tier, per box	1 00@ 1 25
Apples, good to choice, 50-lb box	75@ 90
Apples, fair to good, 50-lb box	50@ 75
Apples, common, ₱ 50-lb. box	25@ 40
Figs, Black, ₱ 2-tier 15-lb box	—@ —
Figs, Black, ₱ 1-tier box	—@ —
Figs, White, ₱ box	—@ —
Nectarines, Red, ₱ box	—@ —
Nectarines, White, ₱ box	—@ —
Prunes, Falkenburg, ₱ crate	—@ —
Prunes, Hungarian, ₱ box	—@ —
Prunes, German, ₱ 50-lb. box	—@ —
Peaches, fancy wrapped, ₱ box	—@ —
Peaches, Freestone, ₱ ton	—@ —
Peaches, good to choice, ₱ box	—@ —
Peaches, Cling, per ton	—@ —
Pears, Bartlett, ₱ ton	—@ —
Pears, Bartlett, No. 1, per box	—@ —
Pears, Winter Nelis, per box	50@ 1 00
Pears, other kinds, ₱ box	40@ 75
Plums, choice, large, ₱ box	—@ —
Plums, other kinds, lb box	—@ —
Plums, ₱ crate	—@ —
Crabapples, ₱ box	—@ —
Pomegranates, ₱ box	40@ 75
Quinces, ₱ box	1 00@ 1 25
Nutmeg melons, ₱ box	30@ 60
Cantaloupes, per crate	50@ 1 25

Berries.

Blackberries, ₱ chest	5 00@ 7 00
Currants, Red, ₱ chest	— —@— —
Raspberries, ₱ chest	5 00@ 7 00
Strawberries, Longworth, ₱ chest	— —@— —
Strawberries, Large, ₱ chest	5 00@ 7 00
Whortleberries, ₱ lb	10@ 12½

Grapes.

Black Hamburg, ₱ box	50@ 60
Corniebon, ₱ box	50@ 65
Fontainebleau, Cal., per crate	—@ —
Fontainebleau, Cal., per box	—@ —
Isabella, ₱ crate	75@ 1 00
Muscat, per box	50@ 60
Muscat, ₱ crate	65@ 75
Muscat, ₱ ton	12 00@15 00
Mission, per ton	20 00@23 00
Rose of Peru, ₱ box	50@ 60
Rose of Peru, ₱ crate	65@ 75
Royal Isabella, ₱ crate	—@ —
Seedless Sultana, ₱ box	—@ —
Tokay, ₱ crate	65@ 75
Zinfandel, ₱ ton	25 00@30 00

Dried Fruit.

The Eastern dried fruit market is thus summed up by a New York contemporary:

Evaporated apples are arriving quite freely, and while demand is steadily increasing it is still moderate and of a jobbing character and market has continued easy with prices averaging slightly lower toward the close. Some extra fancy have found buyers in a small way as high as 5¼@5½c but average fancy generally obtainable at about 5c, with choice 4¾@4½c, very rarely higher, while 4c; has been the current rate for prime. Some prime stock is offering for future delivery a shade under 4c; a good many lots have been damp or otherwise unattractive, and have ranged from 3¾c down to about 2½c for very common. Old evaporated apples are almost entirely neglected and values nominal. Receipts of sun-dried apples are very limited, and while desirable fruit has a little more inquiry, prices remain unimproved. Chops have sold mainly at 1½c, some few sales lower, while a fraction more has been obtained in some instances. Cores and skins quiet but held steady at 1@1½c., latter figure extreme, and some sales reported a shade lower. Southern peaches are very scarce and nominal; peeled quoted 6@8c, latter high. Raspberries have had a fair demand, and have ruled firm at 14½@15c; choice generally held at latter figure. Huckleberries held with a little more confidence, but at old prices. Blackberries have improved slightly, with some holders not urging sales even at outside quotation. Cherries have cleaned up closely and are held firmly. California fruit has had a more active demand, and prices much higher; only very attractive stock reaches outside quotations.

In the local dried fruit market there has been less inquiry from outside sources than for a week or two preceding, the lull being attributed to several causes, prominent among them being the fact that stocks of most kinds have been worked down tolerably low through previous shipments, and prices have been steadily hardening for the past month, so that asking figures are now generally higher than Eastern or local buyers care to pay, unless to cover most immediate and pressing needs. Most dealers are using their present holdings, taking chances of market being less in their favor later on. The closeness of the Presidential election is also operating against business. The market is in the main decidedly firm, despite the prevailing inactivity, not a few producers holding off the market expecting better prices than are now obtainable.

Apples are in light stock, both exaporated sliced and sun-dried quartered, and market is firm at the quotations. Five carloads of Eastern evaporated are announced as on the way, and are being offered to arrive at 5½c. These importations will tend to check values advancing for local product.

Peaches are not readily obtainable in large quantity, and where sellers are found, higher prices have to be paid than had been prevailing.

White Nectarines are scarce and quotably higher, but for the Red variety there is little or no inquiry.

Pears of high grade are ruling against buyers, Bartlett halves of fancy quality being quotable up to 7½c. On the other hand some dark and very ordinary were offered down to 3c.

Pitted Plums are ruling firmer, with very few of desirable quality on market.

Prune market remains quotably about as last noted, although to purchase freely higher prices would have to be paid, most holders refusing to let go at the current figures.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	7½@ 8
Apricots, Royal, fancy	9 @10
Apricots, Moorpark	10 @12½
Apples, in boxes	5½@ 6
Nectarines, White	5 @ 5½
Nectarines, Red	3½@ 4
Peaches, unpeeled, prime to choice	5 @ 6
Peaches, unpeeled, choice to fancy	6 @ 7½
Peaches, peeled, in boxes	11 @12½
Pears, peeled and sliced	4 @ 5
Pears, unpeeled Bartletts, halved, fancy	6½@ 7½
Pears, halved, unpeeled Bartletts	4 @ 5
Pears, quartered, unpeeled Bartletts	4 @ 5
Plums, pitted	4 @ 5
Prunes, in sacks, 4 sizes	3½@ 4
Prunes, in sacks, small sizes	2½@ 3¼
Prunes, Oregon Silver	7½@ 8

COMMON SUN-DRIED.

Apricots, ordinary	5½@ 7
Apples, sliced	2½@ 3
Apples, quartered	3 @ 3¼
Figs, Black	2½@ 3
Figs, White	3 @ 4
Plums, unpitted	1½@ 2

Raisins.

Market is again higher, and is decidedly strong in tone for choice to select qualities. It is the impression that dealers, both here and East, will require considerably more than their present holdings to carry them through the season. Monday's rain is reported to have greatly injured the crop still outstanding, which is variously estimated at from 10 to 25 per cent of the total yield. Owing to the damaging weather, the raisins now curing will run very heavily to the two-crowns.

FRESNO DELIVERY, F. O. B.

Imperial Clusters, per box	3 00@— —
Debesa Clusters, per box	2 25@ 2 50
Fancy Clusters, per box	1 60@ 1 75
Boxes, London layers, 20-lb box	1 20@ 1 25
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ₱ lb	5¼@ —
Loose Muscatel, 3-crown	4¼@ —
Loose Muscatel, 2-crown	3¼@ —
Sultanas	5½@5¾
Seedless Muscatel	4 @ —

Citrus Fruit.

Lemons are in sufficient supply for the existing demand, which is not active. Quotable values remain in about same position as previously noted, but only for the most desirable sizes, properly sweated, are full current fig-

BARB WIRE

We are selling Barb Wire very low. It will pay you to get our prices. The market is very firm. Look out for advance. In our "WEEKLY SPECIAL" this week we quote:

Whole Black Pepper, clean, choice, per lb ..... $ .08½
New Tomatoes, 2½-lb. cans, per doz ..... .67½
Curry Powder, 4-oz. bottles, strong and good, wrapped in English style, with English label, per doz ..... .80

And many other bargains. Get our lists.

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Address CHARLES DARLING,

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ures readily obtainable. There is little or no inquiry for low-grade lemons at any figure. Street hawkers are the principal buyers of this poor stock. Limes are in fair supply, the Mexican product offering at easier rates than last quoted.

Oranges—Wash. Navels, ℔ box	— —@— —
Cal. Mediterranean Sweet	— —@— —
Cal. Seedlings	— —@— —
Cal. Valencias	— —@— —
Grape Fruit, ℔ case	— —@— —
Lemons—Cal., select, ℔ box	2 50@ 3 00
Cal., good to choice	1 50@ 2 00
Cal., common to good	1 00@ 1 50
Limes—Mexican, ℔ box	4 50@ 5 00
Cal., small box	1 00@ 1 25

Nuts.

The almond market is showing an easier feeling, with less inquiry. There is a decided difference in the quality of offerings, and quotable values in consequence are at a tolerably wide range. It is probable that with a renewal of demand prices will recover. Market for White walnuts is showing decided firmness, buyers not being able to operate to as good advantage as earlier in the season. A large proportion of this season's crop has been already forwarded to Eastern points.

California Almonds, paper shell	8½@ 9½
California Almonds, soft shell	7 @ 8
California Almonds, standard	5 @ 6
California Almonds, hard shell	4 @ 5
Walnuts White, paper shell	9 @10
Walnuts White, soft shell	8 @ 8½
Walnuts White, Cal., hard shell	6½@ 7½
Chestnuts, Cal. Italian	8 @10
Peanuts, Cal., fair to prime	4 @ 5
Peanuts, Eastern hand-picked	5 @ 6
Pine Nuts	12½@15

The Last Report of the University Experiment Stations.

None of the reports of the Agricultural Colleges or Experiment Stations excels that issued by the University of California for the year 1894-95 in amount, diversity and importance of practical suggestions and of scientific researches. It contains 481 pages, is profusely illustrated, and, from special investigations of Director Hilgard and others, has a value for reference that will be increasingly appreciated in years to come. Its pages are highly suggestive of the variety in Californian climates, soils and productions.—N. Y. Evening Post.

This shows the estimate placed upon our California Experiment Station work. The publication has already been noticed in the RURAL and has been largely distributed, but if any readers have not yet applied for it a postal-card application to Prof. Hilgard, Berkeley, will secure a copy without further expense.

Our Welcome.

In our advertisements we are always telling our city customers how welcome they are at the store—buying or looking—we are always glad to have them come.

And they do come; they buy if they want to, but they are made to feel welcome anyway.

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List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING OCTOBER 13, 1896.

569,397.—COOKING STOVE—J. E. Armstrong, Santa Cruz, Cal.
569,272.—ORE CRUSHER—S. M. Briggs, S. F.
569,378.—WELL CASING SPEAR—E. M. Hoagland, Oakland, Cal.
569,458.—WINDMILL GEAR—W. C. Heffner, Prospect Park, Cal.
569,460.—CARBURETER—C. W. Ingraham, Heppner, Or.
569,284.—PRUNING TOOL—R. Jacks, Quincy, Cal.
569,207.—BOILER FURNACE—E. W. Jones, Portland, Or.
569,346.—CRANK HANDLE—J. D. McFarland, Jr., Prosper, Or.
569,509.—MUSIC CHART—F. Mueller, Spokane, Wash.
569,228.—WIRE ROPE CLIP—A. Painter, S. F.
569,303.—REAMER—J. Singer, Los Angeles, Cal.
569,361.—ORE FURNACE—C. E. Stockford, Sulphur Creek, Cal.
569,437.—HAY FORKS—J. F. Tuttle, Springdale, Or.
569,311.—CAR BRAKE—R. G. Woodward, Alameda, Cal.
569,312.—CAR BRAKE—R. G. Woodward, Alameda, Cal.
26,171.—DESIGN FOR BADGE—Whiting & Cather, Lebanon, Or.

NOTE.—Copies of U. S. and Foreign patents furnished by Dewey & Co. in the shortest time possible by mail or telegraphic order). American and Foreign patents obtained, and general patent business for Pacific Coast inventors transacted with perfect security, at reasonable rates, and in the shortest possible time.

Patrons of Husbandry.

Good Times Ahead.

The Grange, like every other human institution is greatly affected by good and bad times. During the past five years it has suffered its share in the general depression and discouragement in California, and, in the revival which now seems to be at hand, it ought also to share. With better prices for products, farmers will be better able to support the Grange, and will be in better spirit to attend and enjoy its meetings. At what appears to be the beginning of a new period of improved times the Grange in California finds itself in good condition. Its Master is a young and capable man with no end of hard work in him; its Lecturer is a man of experience and of fine talent, both on the platform and with the pen. No man in California holds the same distinction in connection with rural organizations, and none other can command so large and eager a hearing. In the RURAL PRESS the Grange has an organ through which it may keep in touch with the most prosperous, thoughtful and hopeful elements in California rural life. There are no factions in the State Grange, no other wish than to cordially pull together for the good of the Order. Another great advantage is that the Grange approaches the new era in good financial shape. It owes nothing, and it has in its treasury a sufficient fund for any reasonable enterprise in the way of extending its influence and increasing its membership. Under all these conditions the Order ought to prosper.

From the Worthy Master of the State Grange.

The thirtieth session of the National Grange of the Patrons of Husbandry will be held in the city of Washington, D. C., commencing on "the first Wednesday after the second Monday in November (11th)" at 11 o'clock A. M.

Your representatives will leave California on November 5th and be present at the opening. After this date, all urgent communications should be sent, up to and including November 17th, to National Hotel, Washington, D. C. The best endeavors of your representatives will be used to properly represent California at this national session.

During the past year the Grange in the United States has prospered. Secretary Jno. Trimble sums up the year's Grange work as follows:

From and including October 1, 1895, to and including September 30, 1896, being the Grange year just closed, the following new Granges were organized: Colorado, 1; Connecticut, 3; Illinois, 5; Indiana, 3; Iowa, 2; Kansas, 2; Maine, 8; Massachusetts, 5; Michigan, 12; Minnesota, 1; New Hampshire, 20; New Jersey, 2; Ohio, 33; Oregon, 11; Pennsylvania, 18; Rhode Island, 1; South Carolina, 4; Vermont, 9; Wisconsin, 2; New York, 27. Total, 169.

During the Grange year ending September 30, 1895, there were organized 92 new Granges. Total number of Granges organized since the foundation of the Grange, 27,379.

Let California follow the example of these States and see what she can do the next year to organize new Granges in new territory. Who will be the first to organize a new Grange in California?

Sacramento, Oct. 27th, 1896.

San Jose Grange.

(San Jose *Mercury*, October 25th.)

The meeting of the San Jose Grange yesterday was unusually well attended, and an interesting report was made by Worthy Master Saunders of the recent session of the State Grange at Sacramento. The citizens of Sacramento were highly praised for their splendid entertainment of the visitors at each day of the session. The visit to Folsom, and the lunch spread by the citizens of that town, was very much enjoyed.

There was further discussion of the constitutional amendments to be voted upon at the coming election. The third and fourth amendments were favored by an almost unanimous vote.

The importance of raising large fruit was discussed, and attention was called to the fact that prunes as large as 30s now bring 8 cents in the market, while smaller fruit does not sell fast at half that price. The paper on "How to Grow Large Fruit," to be read before the coming Farmers' Institute, is looked forward to with much interest. The date of the Institute could not yet be announced, but it was believed that it would be during the last week in November.

Opinions of the Sonoma Pomona Grange.

The Sonoma Pomona Grange adopted the following resolutions at a meeting at Santa Rosa last week:

Resolved, That it is the sense of this Grange that the sixth amendment to the State Constitution, to be submitted to the electors for their ratification or rejection, ought to be voted for by the electors at the approaching election.

Resolved, That the first of the series of proposed amendments to the State Constitution is an unjust discrimination in favor of capital, and therefore ought to be rejected.

Grange Notes.

A meeting of the Executive Committee of the State Grange will be held at the Russ House, San Francisco, on Saturday, October 31st. Besides the Worthy Master and Secretary, and the members of the committee, the new Worthy Lecturer will be present and possibly other leading members of the Order.

Worthy Master Greer and wife expect to leave Sacramento on the 5th for the East to attend the National Grange.

On Thursday of this week American River Grange is to hold its annual reunion, all the granges in Sacramento county being invited to participate. Worthy Master Greer is to be the special guest of honor.

For Woman Suffrage.

Santa Rosa Grange, at its last meeting, resolved in favor of the woman suffrage amendment.

California Fruit Sales.

NEW YORK, October 21.—California fruit sold today as follows: Grapes—Muscats, 95c@$3.55; assorted, 90c@$2.70; White Tokays, $2.65; Flaming Tokays, $1.10@2.30; Black Moroccos, $1.30@2.10; Cornichons, $1.75; all single crates. Quinces, $2.35 per box.

CHICAGO, October 21.—California fruit sold today as follows: Grapes—Tokay, $2.20@3.10 per crate; 90c@$1.40 per half crate; Muscatel, $1.25; Cornichon, $1.40.

NEW YORK, October 22.—California fruit sold today as follows: Grapes—Tokay, $2.40@2.85 per crate; $1.10@1.60 per half crate; Cornichon, $1.70@1.85; assorted, $1.56.

CHICAGO, October 22.—California fruit sold today as follows: Grapes—Black Moroccos, $1.75 per half crate; Muscat, 65c@$1.45; Tokay, $1.05@1.15; Verdels, 85c@$1; Cornichons, 85c. Pears—Easter Buerres, $1.15@1.70 per half box and 60c per half box.

NEW YORK, October 23.—California fruit sold today as follows: Pears—Glout Morceau, $2.65@2.85 per box; Winter Nelis, $2.50. Grapes—Tokay, $2.55@2.65 per crate and 95c@$1.65 per half crate; assorted, $1.30@1.55 per half crate; Muscatel, 80c@$1.90 per half crate; Emperor, $1.45 per half crate; Verdels, $1.35 per half crate; Black Morocco, 95c@$1.55 per half crate.

CHICAGO, October 23.—California fruit sold today as follows: Grapes—White Cornichons, $3.50 per crate; Cornichons, $2.45 per crate and $1.20@1.25 per half crate; Muscats, $2.10@2.25 per crate and 95c per half crate; Tokays, $2.15 per crate and 95c@$1.10 per half crate. Pears—Bartletts, 50c per half crate.

NEW YORK, October 27.—California fruit sold today as follows: Grapes—Tokay, $2.30@2.90 per crate; $1.05@1.50 half crate; Cornichon, $1.25@1.45.

CHICAGO, October 27.—California fruit sold today as follows: Grapes—White Cornichons, $3 per crate and $1.25 per half crate; other Cornichons, $1.05@1.10 per half crate; Tokays, $1.95@2.15 per crate and 85c@$1.25 per half crate; Muscats, 80@90c; Verdels, 95c.

—Last week 500 tons of beans were shipped from San Francisco to Liverpool. This is said to be the first direct shipment of the kind from California.

"BROWN'S BRONCHIAL TROCHES" relieve Throat Irritations caused by cold or use of the voice. The genuine sold only in boxes.

—The San Francisco Chamber of Commerce is about to memorialize Congress asking a subsidy for American ships to carry mails across the Pacific ocean.

One-third of all Harvesting Machinery in use is made by the McCormick Co. of Chicago.

CONDITIONS point to an increased area and growth of woodlands throughout New England. The old practice of clearing forests and burning the wood for making settlements and homes has passed away. The many acres of rough and rocky sidehill land have already been cleared in generations now past. Thousands of what are called farms would have been doubly valuable had they been cultivated for timber instead of grass. Wood is not consumed for fuel to the extent it once was. Railway locomotives burn coal instead of wood. A vast proportion of the area of New England is natural forest land. Keep out the fires and we may have successive crops of wood and timber for all time. The ax properly handled is the friend instead of the enemy to the forest. Our forest products are only valuable as they may be utilized by civilized humanity.—Northeastern Lumberman.

THE usual thing has happened with the French motor-car demonstration. More than two-thirds of the conveyances have already been disabled and have given up the contest. It will be remembered that the same result was the case in the races which took place in the United States, only, perhaps, still more accentuated. The truth seems that we have not yet been successful in evolving an even fairly satisfactory vehicle of this description.

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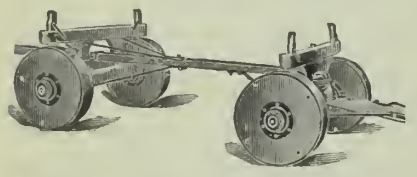

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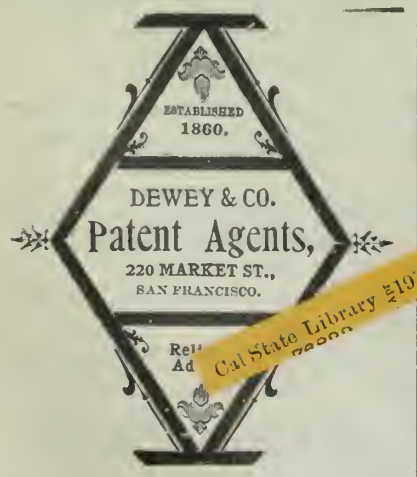

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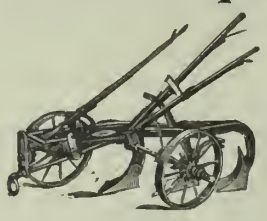

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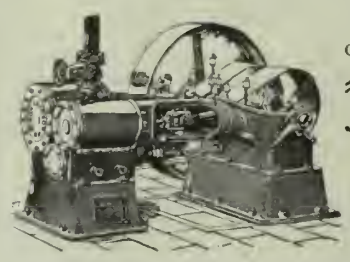

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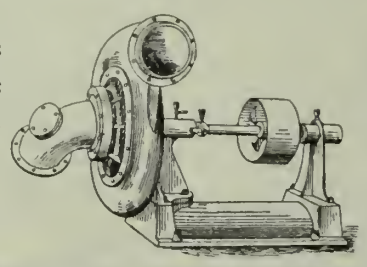

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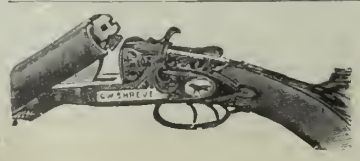

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THE PACIFIC RURAL PRESS
AND CALIFORNIA FRUIT BULLETIN.

Vol. LII. No. 19. SAN FRANCISCO, SATURDAY, NOVEMBER 7, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.

Paper not to be taken from the Library.

The President-Elect.

William McKinley, President-elect of the United States, is a native and lifelong citizen of Ohio, and is in his fifty-fourth year. He comes through both lines of his ancestry from the Scotch-Irish race which settled in America in 1724, and which has been so potent a force in American life and in the making of American character. Mr. McKinley's parents were plain folk, industrious and devout, and, while never in poverty, were so circumstanced that William—sixth in a family of nine sons and daughters—had to win his education by working out-of-hours and through vacation time. At seventeen he enlisted as a private soldier in the Twenty-third Ohio Volunteers, and within a year he was made a second lieutenant, promotion following till he became major of his regiment. His war service was considerable and highly creditable. He was many times in the thickest fighting and always displayed a high soldierly courage. After the war he studied law, and in 1867 was admitted as a practitioner. He took an active part in local politics and within three years from the time he hung out his professional "shingle" he was chosen prosecuting attorney for the Canton district. In 1876 McKinley was elected to Congress, taking his seat in 1877. His recent political history as a Congressional leader, as chairman of the National Republican Convention of 1892, and as Governor of Ohio, is sufficiently well known.

WILLIAM McKINLEY, PRESIDENT-ELECT OF THE UNITED STATES.

In 1871 Mr. McKinley was married to Miss Ida Sexton, daughter of a pioneer Ohio editor. Mrs. McKinley, who has for many years been an invalid, is said to be a woman of beautiful character and commands the absolute devotion of her husband. They have no children, a daughter born twenty years ago having died in early childhood.

Mr. McKinley has for many years been comparatively a poor man, having in fact had no income save his official salary and some small return from a desultory professional practice. His savings from these sources, amounting to a few thousand dollars, were lost two years ago in a local bank failure. His style of living has always been of a modest sort. His home at Canton is a roomy but unpretentious cottage, and at Washington he has always lived at a hotel, taking practically no part in the social life of the capital.

MANY readers of the RURAL will hear with deep regret of the death of Mr. James Shinn of Niles, which occurred at his home last week. Mr. Shinn was in his ninetieth year, and was prominent in California agriculture since his arrival in this State forty years ago. His wide acquaintance, his sterling uprightness and his liberal appreciation of true progress in all lines have rendered him a distinguished figure among our best known men. We expect at another time to present an outline of his interesting life.

A LETTER from Whittier says: "The end of the walnut season is approaching. Cars are being sent off now every day, averaging about twelve cars a day from Rivera."

Sheep and Wool.

If half the anticipations are realized we shall soon see a forward movement in sheep on this coast. Those who have grieved to see the figures of the wool product dwindling away under legislative measures and policies which made sheep unprofitable will hail with delight renewed attention to this wealth-winning animal. The States of the Pacific coast can and will roll up a splendid wool product, without decreasing in the slightest degree any other production. There are seas of land which have practically been unproductive during the last few years which can yield their owners fair profit in flock growing. There are also vast areas which are moist enough to grow large crops of summer feed which have lain idle because there was no good market for the masses of products which could be easily grown upon them. Naturally the owners of these lands will be on the alert to seize upon the possibility of a product which, under favoring Governmental policy, will have ample market at paying prices and invest time and money in an animal which not only draws wealth from the soil, but leaves it better for their sojourn upon it.

The fate of the sheep during the last few years has been almost pathetic. Thousands have been shipped from fields which had abundant pasturage for them simply because wool prices would not pay for shearers and herders. Others have clung to such part of their flocks as they were able to shear with the shearing force of their own families. They hated to lose hold upon an animal which has been profitable all through the history of mankind. It will not take long for them to reembark in the business which they respect and enjoy, now that the promise has gone forth that once more the sheep shall have a chance in the United States.

The prospect of the revival of the flock interest is very pleasant to the RURAL PRESS, which has been a friend and ally of the flock-owner ever since the advent of improved Merinos. During the last few years the breeding interest, which commanded the best efforts of so many people, has been kept alive by a very few. There must come again, as there was once before, a general interest in the best breeds.

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ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, November 7, 1896.

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The Week.

Weather and Crops.

Since the rains there has been delightful weather, and it has been chiefly employed in favoring the discharge of political duties. As these are now disposed of there should be energetic work in such efforts as the season favors. Early work usually pays best in California, and there is now every encouragement in the markets to do some of it.

The following data for the week ending 5 A. M. Wednesday, Nov. 4, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	1.26	3.28	3.66	4 61	62	40
Red Bluff	....	1.77	2.22	2 65	70	44
Sacramento	*	*	1 30	1.57	*	*
San Francisco	.06	.89	2 20	1.82	62	49
Fresno	....	1.54	.25	.92	68	42
San Luis Obispo	....	1.68	2.02	*	74	46
Los Angeles	....	.36	.35	1.24	78	48
San Diego	....	.88	.39	.84	70	52
Yuma	....	.58	.16	97	80	48

* Indicates no record.

An English View of the Grain Market.

A London dispatch of Monday (2nd inst.) quotes the *Mark Lane Express* as follows:

The price of English wheat may react to 28 shillings, but it should rise again in December. The new wheat crop of the Argentine is now offered for spring shipment. It is now below 30 shillings. This gives a glimpse of the future, as Argentine wheat should always be cheaper than English. Telegrams from India Saturday give the rainfall of October as very small at all the chief stations. The best was in the Panjub, and it was practically nil on the east coast. Wheat accordingly has risen to 30 shillings a quarter at Calcutta, and there is considerable distress among the poor.

Chicory Growing.

California has been growing chicory for a score of years or more and has had no difficulty in producing all that the traffic could profitably bear. The Chehalis *Bee* says that Mr. Joseph Greuner, of Alpha, Lewis county, Washington, and his neighbors have this year raised about 120 tons (green) of chicory upon fifteen acres of land. Mr. Greuner, who is from the vicinity of Saaz, Bohemia, a section famous for hops, sugar beets and chicory, learned the business to grow and manufacture chicory there. He has imported machinery from Germany and built and equipped a factory capable of handling the product of seventy acres. The *Bee* after making these statements says: "The consumption of chicory on the Pacific coast is said to require the product of 300 acres and so far as is known there is only one factory besides Mr. Greuner's on the coast." We presume the *Bee* refers to the establishment in San Joaquin county, and we would like to add for the information of our northern friends that the establishment in California is large enough to supply not only all that the Pacific coast can use but has been fighting imported chicory in the Eastern markets ever since it was started. There is not only 300, but 3000 acres of the finest possible chicory land around it and it will be pushed in production just as far as a profit will warrant. It will be very easy to produce far more chicory than there is sale for. It has been done before and people should be warned that the industry is limited.

The Elections.

William McKinley has won the Presidency by a heavy majority. The returns are not complete at the time of this writing (Wednesday), but enough is known to put the general result beyond a doubt. As indicated by returns up to 3 o'clock Wednesday afternoon, the McKinley column includes the States of California, Connecticut, Delawara, Illinois, Indiana, Iowa, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, South Dakota, Vermont, West Virginia and Wisconsin. The aggregate electoral vote of these twenty-four States is 269 votes. The Bryan column includes the States of Alabama, Arkansas, Colorado, Florida, Georgia, Idaho, Kansas, Louisiana, Mississippi, Missouri, Montana, Nevada, Nebraska, North Carolina, South Carolina, Tennessee, Texas, Utah, Virginia, Washington and Wyoming. The aggregate electoral vote of these twenty-one States is 178 votes. There may be one or two changes from the McKinley to the Bryan column, but so far as the general result is concerned they will make no difference. The vote everywhere was large beyond precedent, and the majorities in the Eastern States surpass all former records. For example, New York gives McKinley somewhere between 280,000 and 300,000; Illinois gives McKinley 100,000 to 140,000; Iowa, 100,000; Massachusetts, 170,000; Pennsylvania, 300,000; Vermont, 40,000. Three Southern States will give their electoral vote to McKinley—Delaware by 1000 majority, Kentucky 1000, Maryland 20,000, and West Virginia 25,000. In these several States the local Democratic tickets are generally elected; while in Illinois, New York and other Northern States McKinley's majorities far outrun the local Republican nominees. The South, generally speaking, fully maintains its average Democratic majorities.

It is not practicable at this writing to make exact figures of the congressional vote, but it is known to be heavily Republican. The Senate, it is believed, will not be materially changed though the Republicans have gained a man in Illinois. Thus, when the new President comes into office next March, he will find both Senate and House of his own party faith.

In California the vote is very close; and while present indications give the State to McKinley, the margin is so narrow that later reports may change the whole aspect of affairs. The highest claim made by the Republicans is 8000 majority, while the Democrats assert that it will not exceed 3000. For Congressmen, five out of seven Republicans appear to be elected. In the first district Barham wins over Cutler; in the second, DeVries (Dem.) wins over Johnson; in the third, Hilborn wins over English; in the fourth, Maguire (Dem.) wins over O'Brien; in the fifth, Loud wins over Kelly and Kinne; in the sixth, McLachlan wins over Barlow; in the seventh, Bowers wins over Castle. The woman suffrage amendment is beaten—probably very badly. The majority against it in San Francisco is about 20,000, but it is expected that it will be decreased by the interior returns.

San Francisco elects a Democratic Mayor (Phelan) by a large majority, but a good share of the successful names on the general city ticket are those of Republicans. Local voting in San Francisco was not at all on party lines. The projected new city charter appears to be defeated.

The Raisin Situation in the East.

A New York telegram of the current week says:

The steady upward movement in the price of California raisins has brought out a demand from consumers that, according to reports, exceeds that of last year at this date; but at the same time country buyers, it is said, have withheld orders, believing that, as in past years, there would be a reaction in market values as soon as the requirements of the larger buyers had been satisfied, and shippers would then again resort to consignments in order to move stocks out of the primary markets.

Most of the sales made so far, it is understood, have been to fill absolute requirements. Little or no speculative interest is taken, the reports of heavy rains on the Coast having been without influence to stimulate the demand from Eastern buyers. All reports from California so far received indicate that there will be few consignments made this year. The crop, it is stated, is much smaller than in 1895. While some of the holders on the Coast, impatient of the slowness of buyers to take hold, have shown a disposition to shade prices, a majority of the sellers in California seem to have a good deal of faith in the future, and are not disposed to make concessions. The offerings of the weaker element, however, have an unsettling influence on the market for shipments.

It is stated that a considerable proportion of the crop of loose Muscatels this year consists of two crowns, which have not yet begun to move. Three crowns, which have received but little attention so far, are in relatively good supply and of exceptionally good quality, but the output of four crowns, it is reported, will be short. The holders of three crowns have been seeking to get better prices, but at anything above 4¼ cents, free on board, California, except possibly on some special brands, buying interest is withdrawn. Within the past week there have been large sales of three crown at 4⅛@4¼ cents, free on board, for first half November shipment, and, in some instances, it is reported, up to 4½ cents has been paid for special brands, but at present the market is quiet.

This is in the main a correct statement of the raisin situation. The crop in California is turning out as stated, except that it is not running as largely as was expected into two-crown loose, there being a greater proportion of three-crown loose than was looked for. During the past week the Eastern demand has dropped off, which is understood here to mean that Eastern merchants have been giving their attention more to politics than to trade. It is believed that as soon as business gets running again into normal channels, it will be found that raisins are in a strong position. The prices now ruling are so much better than those of recent years that is does not seem likely that there will be any further great advance, though it is quite likely to be expected that there will be more demand and perhaps some improvement in prices. Upon consideration of all the facts of the situation it may be doubted if there would be any advantage in a decided increase in prices, since its probable effect would be to turn the attention of consumers from raisins to cheaper foodstuffs. Up to this time there is no such indication—on the contrary it appears that with the political question settled there will be a more general tendency on the part of Eastern dealers to stock up. The notion appears to be general in the East that as soon as f. o. b. slacks down a little, there will be revival of the consignment stream. Surely, after the success of the f. o. b. system this season, producers will not be such fools as to fall again into the old consignment pit.

Pith of the Week's News.

JUDGE BREITENBACH, a pioneer of Sonoma county, died at his home October 30th.

LA FAYETTE COUNTY, Miss., was the scene of a terrible cyclone October 29th. Many houses were blown down and seven persons were killed.

THERE was never so quiet an election in San Francisco. The new balloting system was again demonstrated to be an immense improvement over the old method of voting.

IN the course of a letter written October 26th to E. J. Louis of San Diego, President McKinley said: "Your great State has demonstrated its capacity to raise fruits fully equal to those imported from southern Europe and from the Southern and Central American Republics, and, with adequate protection, there is no doubt that the fruit industry would be developed and would be profitable to a degree that would be of enormous advantage to the people of California."

SAN FRANCISCO is not pleased with the plans for the new post office recently received from Washington. It has been hoped that the new building would be an ornament to the city, but the plans show a cheap-looking front not unlike the old California blanket mill on North Beach. Steps ought to be taken at once looking to a radical reform of these plans. Every public building in California ought to carry in its external appearance some suggestion of our historical architecture as exhibited in the Spanish missions. It is unique and beautiful; it costs no more than other forms of construction.

DIXON *Tribune*: "About fifteen of the taxpayers of Solano county held a meeting in the N. S. G. W. hall last Saturday afternoon. James McCrory, of Elmira, was elected chairman, and H. B. Clayton, of Manka, was appointed secretary. The meeting was called for the purpose of considering the proposition of presenting a resolution to the next Legislature asking that the salaries of all county and city officials be reduced. A committee was appointed to draw up a brief list of the amount of salary they think is due each official. They reported as follows: Sheriff, per year, $2500; one deputy sheriff, $500; superintendent of schools, $1000; assessor, same commission, $1500; auditor and recorder, one office, $2400; clerk, $2000; district attorney, $1500; treasurer and tax collector, $2500; supervisors, $500; justices and constables, per month: Vallejo, two of each, $50; Suisun, one of each, $50; Benecia, one of each, $50; Dixon, one of each, $50; Vacaville, one of each, $50; all other districts, one of each, salary left the same as at present.

THE English wheat situation is thus spoken of by the *Mark Lane Express*: "According to Sir J. B. Lawes, the United Kingdom will require during the coming year some 30,000,000 quarters of wheat to feed its population of 39,500,000. He thinks that our home produce this year will supply some 7,000,000 quarters, thus leaving no less than 23,000,000 quarters to be supplied by imports; in other words, of the total amount consumed we have to import more than three-fourths. Now, if we consider the foregoing statements, together with the wheat prospects of the world for this year, the situation is not pleasant to contemplate. It is estimated that the wheat importing countries will this year require something like 48,350,000 quarters of wheat, while the probable shipments

from exporting countries are estimated at 42,000,000 quarters, exclusive of Argentina and Australasia, and it is very improbable that they will be able to supply the deficiency. It will be seen that Great Britain alone requires more than half of the total wheat available for export. At this rate the question naturally arises as to how this country will stand, say, ten years hence?" All of which goes to show that the English market for wheat is likely to be a permanent one.

India Not a Wheat Country.

For some time past it has been contended by certain economic students that India was not a wheat producing country; but their theories have seemed to be contradicted by events. The facts of the present season, however, have revived the discussion by proving, at least, that India cannot be depended upon as a permanent and steady source of supply. The argument in support of the allegation that India is not a wheat country is presented by a writer on the Portland *Oregonian* from whom we quote:

For more than ten years Americans have been worrying about the competition of India in the wheat markets of the world. For nearly as long the exports of wheat from India, instead of increasing, as would be the case, were any part of the peninsula of Hindustan really fitted to enter into the world's competition for supply of wheat, have declined till they are hardly appreciable. Ten years ago—that is to say, in the twelfth month ended on March 31, 1887—India exported 41,558,764 bushels of wheat. During the three months ended June 30th last, her exports were only 1,800,145 bushels, although the shipping season had then begun, and it is not likely that the exports during the whole of the current year will exceed, even if they reach 3,000,000 bushels.

The indication is plain that the experiment of wheat production in India, undertaken by the British at enormous cost for railroads and other equipment, has turned out a failure, and that the peninsula is not to be counted upon hereafter as a source of supply for the European market. Either the capacity of this populous country to consume wheat has increased much faster than production, or the soil and climate are not fitted for the industry. Reports of drought and famine in the last year or two indicate that the latter explanation is true. Northern India, like the subarid belt of Western Nebraska and Kansas, seems to have tempted the wheat grower with a few prosperous crops only to doom him to disaster with permanent conditions making for failure.

This is a reasonable conclusion, because in all other parts of the world wheat is a temperate plant, and is produced in highest perfection in the coldest part of the temperate zones. Of course, it is a summer plant, starting to grow in the spring, whenever sown, and maturing in the fall. India is a tropical country on the other hand, and wheat is sown in the fall, grows through the winter and is harvested in the spring. It can be grown at all in appreciable quantities only in the northern and central portions of the country—in the Punjab, the Northwest provinces, Oude, Bombay, Scinde, the Central provinces, Bengal and Berar. The land is prepared after the summer monsoon rains have well moisened the soil, from the middle of September to the end of October, earlier in the southern and later in the northern districts. Sometimes it succeeds maize or other quickly growing crops, and sometimes it is sown on summer fallow land. The seed is planted from the middle of October to the middle of November, and the grain is reaped in March and April.

It appears that the only parts of India where wheat can be grown at all have two rainy seasons, in the fall and in the spring, and if either of these fails the crop is a failure. These rains are precarious and irregular, though they seem to come in cycles of years, like those of Western Kansas and Nebraska. About ten years ago there was a series of wet years and large wheat crops. Since then the exports have been decreasing, till this year they will be almost nothing. Owing to the scanty rainfall of the northeast or cold weather monsoon last winter, the grain harvests of the north were deficient, and the prices of nearly all descriptions have been slowly rising for months past. To that misfortune a partial failure of the summer rains—the southwest monsoon—which began in June last, has succeeded in the northern provinces, completing the ruin of the winter's crop.

If the crop of India is to be as uncertain as this no reliance can be placed upon it for export purposes, and probably in the long run it will cease to be profitable and will be abandoned. Similar conditions must exist in other tropical countries, and perhaps the expectation that Great Britain can develop great wheat-producing areas on the Upper Nile is not reasonable. Probably the conclusion is safe that the great wheat fields of the world always will be in the temperate zones, and on well-watered plains. We have more to fear from the competition of Russia and Argentina than from that of India and the Soudan.

California Wheat and the Indian Famine.

That California should be called upon so soon to send bread to India, one of her recent rivals in the European wheat supply, is regarded as an interesting fact all over the world. It is cabled from London that Sir Richard Temple, who has had experience in Indian affairs since 1846, who was at one time secretary to Sir John Lawrence, Finance Minister of India from 1868 to 1874, and who was then appointed to superintend relief operations in famine-stricken Bengal, has been interviewed on the threatened Indian famine. Sir Richard alluded to the import of California wheat as a unique factor in the situation. He said:

It appears that wheat can be landed at Calcutta and sold at from eight to nine seers per rupee. Such a possibility was never dreamed of in my time. If this be true, it will suffice to fill the shortage in the Indian supply. Certainly American wheat sold in India at that price will suffice for the distressed districts. I do not see the need of the Government to intervene in this matter. If the thing can be done, traders will do it better unaided. I think this is a vital matter, and the Government should immediately verify it if this is possible; and, if so, the traders should not intervene. If the American supply failed, then I do not think there is sufficient wheat in India to meet the scarcity and the Government might have to buy supplies wherever favorable opportunities offer.

Several thousand tons of California wheat have reached Calcutta and 30,000 tons are believed to have been bought for India, but the home prices are said to be rising. When the news of this import reached Jubbulpur the price fell from eight and a half to ten seers per rupee. There are 53,800 persons now employed in relief work. The India seer is equal to 2059 pounds avoirdupois. An Indian rupee is worth about 45 cents.

Methods with Broom Corn.

In answer to several queries as to methods of handling broom corn, we gave the following description of Illinois practices, which Nelson Curtis writes for the *Breeders' Gazette:*

Planting and Cultivating.—In several counties in Central Illinois broom corn is the staple crop. The ground is prepared the same for broom corn as for Indian corn. The seed is drilled with the corn-planter, a chain and cog-wheels being used instead of the wire and broom-corn plates in the seed-boxes. It is better to arrange the seeding so that the crop will not all mature at once. If it is drilled too thick the heads will be small and spindling; if too thin the brush will be coarse and woody. It is cultivated the same as Indian corn if drilled. It is ready to cut when the heads are fully matured. If allowed to get too ripe the brush will be red and will make an inferior quality of brooms. A frost reddens the brush. A rain on it after it begins to head makes crooked brush, which sells for half-price. I have worked in broom corn that was nearly half crooked.

Harvesting.—Broom-corn harvest sometimes commences as early as the 5th of August; sometimes as late as the 10th of September. It must first be broken. A man stands between two rows with his back toward the way he is going, gathers all the stalks he handily can with one arm, bends them over quite a ways, pushes back on them and they break so they can be lain. He repeats the operation with the other arm, laying the rows across each other, forming a table which should be about waist high, with heads hanging just over the edges so the cutter can handily catch hold of them. The cutters use knives of the best steel, kept sharp as a razor, from four to eight inches long and from one to three inches wide. The cutter puts his knife against the stalk about eight inches below the head, catches the head and pulls it against the knife to cut it off. The fast cutter cuts from one to six heads at once. When he gets a handful of brush he lays it on the "lay table," every other table being a lay table. Three tables eighty rods long broken and cut is a day's work. The brush is left upon the tables several hours and is then hauled in. A team, hitched to a long rack wide enough to accommodate two tiers of brush, is driven astraddle of a table and a man upon the ground on each side loads.

Cleaning the Brush.—To clean the seed off the brush they use a cylinder with spikes driven into it, made to revolve by horse power. The brush is piled upon long tables on each side of the cylinder and upon the ground. Then four men straighten and sort it; two men bunch it into good-sized handfuls; two men pick these bunches up by the stems and hold them upon the cylinder until the seeds are pulled off, then throw them into the "jack" behind them, being careful the heads lie all the same way, from whence the off-bearer carries them by armfuls into the shed, which has open sides and is divided into "bents." Here it is laid about 3 inches in depth upon slats about 5 inches apart. It is left there about ten days—can be left longer—when it is ready to bale. Five men can bale. One stands in the baler taking the brush the others bring him, placing it in the baler and standing upon it. When the baler is filled he gets out, fastens on the lid and they work the two levers until the brush is pressed as tight as they can get it. Then it is tied with wire, the baler knocked open and the bale rolled out. Bales weigh from 300 to 600 pounds, and if I remember correctly we used to put up from ten to fifteen bales a day. Then last, but not least, comes hauling of it to market and getting the money for it.

Some for cleaning use a self-feeder—two cylinders, one above the other—revolved by an engine and fed by means of a belt. The wages paid are generally $1 a day and it costs about $5 an acre to get it cut and into the shed. From two to five acres yield a ton. Some men raise over 100 acres and keep from twenty to thirty men for a month in harvest. The seed is left in a pile to rot. The stalks are of not much feeding value and broom corn is harder on the land than Indian corn. A little patch is left to ripen for seed.

Cost of the Crop.—I have been told that Arcola, in Douglas county, is the largest broom corn center in the world, but do not know how true it is. Men come from far and near to cut broom corn. If there is no money in broom corn at $50 free on board, there is certainly none when the Chicago prices are from $20 to $50 per ton.

Gleanings.

EASTERN apple growers are not getting enough for their product to pay for the barrels.

THE Sacramento valley towns have been large buyers of Pajaro Bellflower apples this season.

NEAR Los Angeles, on the 1st inst., Henry R. Moore, a farmer, was killed by a bull. This is the third or fourth similar tragedy in California during the past few months.

LONDON, October 30.—A Berlin dispatch to the *Daily News* refers to the arrival of the first shipload of American apples at Hamburg and their selling for from 4 to 8 shillings a hundredweight, while good German apples at this season of the year cost 16 shillings.

A CONTRACT has been let for the construction and equipment of a creamery at Meridian, in Sutter county. Practically everybody in the vicinity of Meridian has an interest in the project, and the number of cows thereabouts will insure its successful operation from the start.

TULARE *Citizen*: The only wheat growers in Tulare county and the whole San Joaquin valley who will profit by the rise in wheat are the large growers who farm by proxy. The small grower had to sell his wheat at 70 cents a hundred in order to meet pressing obligations.

SANTA MARIA *Times*: Ellwood Cooper of this county will ship a carload of olive oil to Chicago, the product of his own ranch. A carload consists of 500 cases, each containing one dozen quart bottles, and the weight of the carload will be 24,000 pounds. This is about one-fifth of the output of the oil product of his ranch this season.

WATSONVILLE *Pajaronian*: Fresno county, so says an exchange, could fill a train thirty miles long with her orchard and vineyard products. The Pajaro valley could show up with a twenty-mile fruit train—a big showing for a small valley; and this section could fill a train sixty miles long with sugar beets. Pajaro valley is right to the front when it comes to quantity and quality exhibits of soil products.

A "FARMERS' Institute and Harvest Festival" will be held at Santa Rosa on Dec. 4th and 5th. Friday A. M. Prof. E. W. Hilgard will deliver a lecture on the "Sugar Beet Industry in California." Friday 1:30 P. M. Dr. Julius Koebig, of San Francisco, will read a paper on "Practical Requirements for the Development of the Beet Sugar Industry." Saturday, A. M. Mr. A. P. Hayne, of the University, will talk on "Resistant Vines." On Friday evening a popular lecturer will probably be secured, and the glee club from the State University will render selections on that occasion. Luther Burbank will also read a paper, and Capt. Crosse will talk on olives.

Pajaronian: Seventy-five tons of beet pulp are shipped daily to Henry Miller's Bloomfield farm. Many farmers in this valley have constructed silos large enough to contain a few hundred tons of pulp. These are filled during the dry season, when teams are idle, and form an excellent store of food during the following winter and spring. The price for well-pressed pulp, delivered into the farmers' wagons at the factory, is fifteen cents per ton, and a cheaper supply of good cattle feed is hard to imagine. Farmers have been somewhat slow to appreciate the value of this nourishing product, which has gone begging at their doors for some years past, but the consumption is steadily increasing, and little if any pulp will this year be thrown away and wasted.

MR. JAMES SPROULE, manager of the Sunset Seed and Plant Co., has recently been in Sonoma county looking for a location suitable for a sweet pea trial ground. Ten or twenty acres would be sufficient for this purpose, as they will continue to raise their main crop at Menlo Park and vicinity, from whence the seed is distributed in carload lots throughout Europe and America, for even England, the home of the sweet pea, is now looking to California for supplies. The California seed greatly excels all others in quality, for not over 25 to 50 per cent of Eastern seed grown in California is certain to be productive. These facts are well known among dealers. Our seed is ripe while their's is still in bloom, which gives the dealers in California-grown seed another important advantage.

DIXON *Tribune*: R. J. Currey shipped a number of sugar beets to the University of California on October 14th on his individual account for analysis. He selected samples of the Vilmorin German, Watsonville and Vilmorin French varieties, all of which were grown on his place, four miles north of town, from seed sown on March 11th. The returns gave the Vilmorin German samples a sugar percentage of 11.77 and a purity coefficient of 73.50; the Watsonville samples, a sugar percentage of 12.80 and a purity coefficient of 83.66, and the Vilmorin French samples, a sugar percentage of 15.45 and a purity coefficient of 87.78. The last is an especially good sample, being far above the milling average. The discrepancy between the three samples is greater than a mere difference in the variety of seed should warrant but Mr. Currey thinks it due to local conditions which may be controlled in future.

NEWCASTLE *News*: Arrangements are progressing favorably for holding a Farmers' Institute at Newcastle on Monday and Tuesday, November 9th and 10th. An endeavor is to be made to organize a regular system of yearly Institutes, under the direction of the University of California. At these Institutes all matters concerning the best interests of the people of Newcastle and the surrounding country may be taken up and discussed, and there is no doubt that great interest will be shown and much benefit result for the community. Aside from the regular lectures and discussions, it is well to have some special work in hand, and it may be well for the Newcastle orchardists to make this the occasion of an increase of membership and influence of the Placer County Fruit Growers' Protective Association, which body has already made its influence felt in the protection and furtherance of home institutions, the maintenance thereof and the further development of future interests of the community.

MRS. R. SCOTT of Portland has in her possession a small jar of honey that was taken from the hive in Vermillion county, Illinois, in 1852, and was the next year brought by her father's family across the plains to Oregon. Honey, as a remedy for colds, croup and bronchial affections, had great vogue with our grandmothers, and, as bees had not at that time been brought to Oregon Territory, and the belief prevailed that they would not thrive on account of the wet and open winters,

this honey was carefully treasured as the last that the family was likely to have for an emergency. It was brought out from time to time for some years and administered in broken doses in cases of severe colds, but was finally, as honey became plentiful in the State, put away as a specimen of the condensed sweetness of a past age. In color it is dark amber, having probably been distilled from buckwheat blossoms, and its quality is unimpaired by time. It is brought out on rare occasions and the curious are allowed to sample it gingerly, while its possessor vouches for its age and recites the story of its travels.

THE Pomona *Times* thus tells how one industrious and thrifty man makes farming pay: "A thrifty rancher has a tract of land cast of town just over in San Bernardino county. He bought the land cheap, as a wash passes through it and no water attached to it. He has tided up the wash with walls and bulkheads, put a wire fence around the part east of the wash and planted most of the land to different varieties of trees. He planted the trees and then built a reservoir. A practical and pushing farmer, seeing the trees planted, work well advanced on the reservoir and no water in sight, asked him why he built the reservoir? "To hold water," was the ready answer. "But, sir, you haven't got any water." The retort came quick and sharp: "I know it, but I've got to get water—must and will have it." And he did get it by digging a well and putting up a windmill for pumping power. Now every three or four days he has plenty of water to irrigate three or four rows of trees, and on that unpromising land there is as thrifty growth of everything as is grown on anybody's land. But there is another evidence of thrift on that ranch. Rabbits are pestiferous little beasts, but their meat is good food much of the year. So our rancher made a small opening at the bottom of the wire fence, large enough to easily admit a rabbit. When Mr. Rabbit passes through he steps on a trap door which precipitates him into a barrel below. Thus this thrifty rancher rids the country of pests and provides himself with plenty of meat. This man will never be heard to grumble much. He's too busy improving his ranch and practicing the economies that insure independence which, next to the necessities of life, is the most desirable possession. The name of this thrifty man is B. K. Brandriff.

The Consignment Question.

In the comments of Eastern merchants on the dried-fruit business of this season, two things are very manifest, namely, their approval of the f. o. b. practice in selling and their opinion that it is only a temporary practice due to the accident of a short supply on a bare market. We quote the following interviews in the New York *Commercial Bulletin* of Oct. 28th:

John M. Chapman, of John M. Chapman & Co., said: "The California shippers are not consigning raisins this year for the simple reason that, on account of a light crop and a bare market, their goods are being taken as rapidly as orders can be filled. It is a great advantage to the California shipper, for the market is kept regulated when the business is handled by large jobbers, while formerly, when three or four carloads of raisins were shipped to a little town, the market there at once became congested. This should be a good object lesson to the California packers; and if, when the next heavy crop is harvested, they will hold their surplus stocks at home instead of sending them indiscriminately to every local market, they will find it greatly to their profit."

U. H. Dudley, of U. H. Dudley & Co., said: "I do not think that many consignments have been made or will be made this season. I understand that there is a practical agreement among growers to ship on orders only; and if this is so, it will have a beneficial effect upon the trade in this market, as there will not be stocks of goods at every local point. The reason for this change, however, is simply the shortness of the crop; and as soon as there is another heavy crop, the practice of consigning will be renewed."

A representative of another leading jobbing firm said: "There have been very few consignments of any kinds of dried fruits, and these few have been placed in strong hands. It is not the consigning in itself that is the source of injury to the trade, but the indiscriminate consigning to small or irresponsible houses which has been common in the past few years. So long as the goods are handled by strong houses who can carry large stocks, the trade will not suffer; but when a small dealer has a large quantity consigned to him, and the market is already well supplied, he at once attempts to dispose of his stock at less than the prevailing prices. New York jobbers are controlling the Eastern trade this year more than for any season recently. Prices have advanced, and on a legitimate basis. It has been a great advantage to the California shipper; and this, when contrasted with the experience they have had the past few years, will, I think, lead to a decrease in the practice of consigning hereafter."

F. S. Delafield, who is a large handler of California raisins, said: "There have been no raisin consignments and but few of other fruits. As a result, the trade of New York merchants has increased in volume, and better prices have been realized. If the practice of selling on orders only could be continued, it would be much more satisfactory for the California packer as well as for the Eastern jobber."

A representative of Seggermann Bros. said: "The greatest trouble has arisen from the practice of consigning to small markets, which became overstocked, with the result that prices were unsettled. Whether shippers on the coast will continue the system, I do not know; but some of them claim that they have received as satisfactory returns from consignments to these small places as from New York. Packers on the coast cannot get advances on their goods except at very high rates of interest, and consequently when they have had surplus stocks on hand they have felt obliged to consign to Eastern markets, where they could secure advances at 6 per cent interest. It may be that by another season the banks in California will be in a better position to loan, and in that case some of the surplus stocks of packers migbt be held there until there is a demand for them."

Regulation of Horseshoers.

And now comes the blacksmith's turn. It is modern progress to regulate everything, and even the mighty smith is to be regulated. Those who have stood in awe of his mighty arm, and have vainly attempted to argue into him some progressive ideas on horseshoeing, will be pleased to hear that horseshoeing is really to become a learned pursuit, and the smith shall no longer be himself the sole judge of what he knows or should know. The State of New York has passed a law requiring that horseshoers shall be examined as to their qualifications to discharge the important trust which the public is obliged to confide in them. There has been appointed (oh, excellent but tardy justice!) a board of "examiners of horseshoers," and this board recently met and organized by electing Dr. Thomas M. Quinn, New York, chairman, Charles W. Kirk, Albany, secretary, and Thomas Carroll, New York, treasurer. Horseshoers who fail to register with the county clerk before October 15th will be compelled to pass an examination before the board, or hold themselves liable to punishment should they continue to practice. The board is now ready to carry out the law, and application blanks may be obtained by addressing the secretary. Such is the progress of enlightenment in the Empire State. The humanity and the pecuniary interest of the horse owner are to be assured that only qualified shoers shall touch the equine foot. It is an act which the intelligent shoer will favor, for there is perhaps more quackery at the forge than at the prescription desk.

Best Time to Fight Insect Pests in San Diego County.

Read before the Farmers' Institute by F. AUSTIN, Escondido.

The best time and means for fighting insect pests is a broad subject with a diversity of opinion. Of the 500,000 fruit and nut trees that I have inspected in this Third Horticultural district, I find 19 per cent of them are infested with injurious insects. Of the Aspidiotus, I find the red scale (Aurantii), the greedy scale (Rapax), the citrus leaf and fruit scale (Citricola), the San Jose (Perniciosus), Pergande's orange scale (Pergandi), and the walnut scale (Juglans regeriæ); of the Lancaniums, the soft orange scale (Hesperidum), the black scale (Oleae), and the filbert scale (Hemisphericum). This, with cottony cushion scale, rose scale, wooly aphis, codlin moth, red spider and May beetle or June bug, includes the list.

Citrus Trees.—We are spraying our citrus trees with kerosene emulsion and Stead's tree wash. All the tree washes that I have used are effectual, provided that they are used at the right time. In the first place, trees that have not been properly pruned are more apt to be infested, more difficult to treat and provide better protection for the insects. Before spraying, all useless branches, dead wood, thick bunches of foliage and all branches lying on the ground should be removed, and thus better provide the tree with air and sunshine. Science teaches us that sunshine and air are both beneficial to us. Why won't it apply to the tree?

The Black Scale.—Our worst pest is the black scale. We are spending more money fighting this than all others combined. We are spraying principally with kerosene emulsion, with good results when applied at the right time, and believe it is the best wash. Others use Stead's tree wash. The young insects yield readily to both. Of the former we know of no bad results; of the latter we often find both fruit and tree injured.

The best time to spray insects infesting citrus trees is when we find the greatest number of young scale. As the black scale is hatching during the spring months, about the 1st of June is a desirable time to spray and repeat spraying as often as we find sufficient young scale to justify.

I believe it is a mistake to wait until the brood is all hatched before treating them, as the first hatch is then in a position that we cannot reach them. Nature has provided them with an armored shell for their protection; also when the insects are allowed to remain during the summer unmolested, the tree has but little if any chance to improve. The soft orange scale yields readily to kerosene emulsion, which may be applied at any time of the year.

Deciduous Trees.—Scale-infested deciduous trees are generally treated during the winter months with the reliable lime, salt and sulphur, properly prepared and applied. One application will destroy the insects. The cottony cushion scale is limited in this district, if any exist, at present. Our remedy has been to cut and burn all trees, plants and vines infested.

Woolly aphis is treated above ground with kerosene oil, applied with a brush, and by placing wood ashes or gas lime on the surface around the tree. Some orchardists have taken out their trees that were infested.

We are fighting the codlin moth by spraying with arsenic spray soon after the fruit is formed, by banding the trees with burlap for the purpose of catching the larvæ, and by picking the infested fruit and scalding it. By faithful work by interested parties we save from 75 to 90 per cent of our fruit, although the codlin moth is gradually spreading from orchard to orchard.

The May beetle or June bug has been very numerous this season, doing much damage in most parts of the district, feeding on the foliage of the plum and prune trees. Our remedy is to place a canvas under the trees at night when the beetles are feeding; by shaking the trees they will fall off and can be then gathered off of the canvas and destroyed. I believe spraying the tree with Paris green will destroy them, although my experiment was too late in the season, as the beetles had nearly all disappeared before spraying.

I have placed this season several large colonies of the Rhizobius in such orchards as I think suitable for them to colonize, hoping they will prove beneficial. We have other ladybirds that are beneficial—the pilot ladybird and the twice-stabbed ladybird. At present the little Chalcide fly is our most beneficial insect. I find its work in all parts of the district.

Industrious California Bees.

"Talk about honey," said the man from California, "why you people in Louisiana don't know what honey is. Out in my State we go out and plug a dead tree and the honey flows like water from a barrel. All a man needs to start a hive is to go out and play the accordion and he'll have ten swarm buzzing about him in less than a minute," so quotes the New Orleans *Times-Democrat*.

"A funny thing happened to me last spring when I was down on my orchard near Pasadena. I was wearing a fine silk hat at the time, and one day when the sun was shining brightly and the birds were singing and the air was filled with the hum of insects I went into the field to see about setting out a lot of budded peach trees. As I was walking among the trees I managed to snag my hat against a tree limb and prod a small round hole in the crown, and fearing I would completely ruin it, I placed it on a tree stump and continued my investigations with a handkerchief tied over my hair. I guess I must have been out in the field for about three hours, and when I went to get my hat I saw a bee go into the hole in the top. This kinder surprised me and I halted. Then another bee went in and one came out, and while I looked I'll be hanged if there wasn't a continual stream of bees going in and coming out of the hole. Well, I didn't exactly like to pick up the hat and risk being stung to death, so I concluded to get a stick and scare them off. Nary scare, though, for the bees kept on coming and going in a steady stream. Finally I called one of my men and explained the situation. He went off and shortly returned with a wad of cotton batting, which he fastened on the end of a stick. This he set fire to and soon smoked the bees out of the country. Then I went for my hat.

"Well, sir, you may believe me or not, as you wish, but those confounded bees had actually opened a hive inside of the beaver, and the thing was half filled with honey. I knew California was strong on bees, but that just beat my time and I say again if you want to see bees come to California."

A Large Test of the Pasteur Virus.

Our readers have manifested much interest in the Pasteur virus, which has been frequently mentioned in these columns as a means which will make quick work with field pests. We have already given some account of trials on ground squirrels, and now it is to be tried on jack-rabbits on a large scale. The Fresno *Expositor* has this interesting outline of the proposed experiment:

A remarkable test of the Pasteur virus for the destruction of rodents will be made next week on an 8000-acre tract several miles west of Fresno. Mr. C. Shattock, agent for the Canadian and American Mortgage and Trust Company, has entered into an contract with Dr. George Edwards, veterinary surgeon, under the terms of which the doctor will endeavor to exterminate the thousands of rabbits which now infest the land referred to.

Three hundred or more of the long-eared pests will be driven into a corral, inoculated and released. The virus will engender a fatal and highly contagious malady, and within a few weeks, it is thought, whole colonies will have perished. The method of inoculating the rabbits is very simple. Raisins are soaked in a dilution of the powerful concoction, and these are placed where the animals can easily reach them. They greedily eat the deadly fruit, and before many days they are as good as dead and spreading infection on every hand.

Dr. Edwards experienced considerable difficulty in hitting upon a proper method for the administration of the virus to rabbits. Unlike squirrels, they refused to eat bread, and it was not until after many experiments that the doctor discovered they would eat boiled corn or raisins. The tests made by the doctor on squirrels have proved highly successful, and there is no doubt that if the farmers and vineyardists would unite in an effort to exterminate the pests, they could easily accomplish that desideratum. Mr. Jewell, the county farmer, says the virus has almost destroyed the army of squirrels which a few weeks ago infested the fields in his charge. The remaining ones are rapidly dying off, and squirrels in adjoining fields have become infected. Dr. Edwards states that the virus is perfectly harmless, so far as domestic animals are concerned. It has no effect whatever on horses, cows or hogs, and when taken into the human system exercises no evil influence.

THE growth of the export trade of the United States is a matter of congratulation, and a more than usual interest attaches itself to the specific lines in which the expansion has shown itself. In machinery, for instance, the figures for 1895 are $11,493,093, and for 1896 $14,853,221. In builders' hardware the total was $2,483,666 in 1895, and $3,311,738 in 1896. Saws and tools made a showing of $1,984,612 in 1895, and $2,197,450 in 1896. Iron and steel wire, $1,277,479 and $1,506,885 in the order of fiscal years as named. Electric and scientific apparatus, $1,912,771 and $2,522,217. Brass and manufactures, $784,640 and $872,590. Railway cars, $868,387 and $1,002,940. Copper ingots, $13,921,460 and $18,646,407. The indications are that the increases noted in these lines are likely to continue, and that the export trade of the United States is in a fair way to divide the honors in foreign markets. The right thing, the right spirit, and the right methods are all that is needed to give the United States its proper place in the commercial greatness of nations.

HORTICULTURE.

How To Detect Faults in Lands Proposed for Fruit Planting.

California land buyers and fruit planters have often encountered much disappointment and loss by proceeding with their undertakings after a mere surface examination of the land. Thousands of trees have been planted and cultivated for a few years and then the cherished trees have donned the sere and yellow leaf in midsummer. Although this may be due to several causes, it is usually occasioned by a defect in the soil, which should have been discovered before the land was planted. Prof. E. W. Hilgard of the University Experiment Station has just issued a circular on this subject in which very pertinent suggestions are made.

Not the Lack of Fertilizers.—Leaving aside the case of special diseases, such as are due to the action of fungi, insects or other organisms, it has now become usual, in this State at least, to attribute any faulty or defective growth of culture plants to some chemical defect in the soil, and to address to the station the question what fertilizer should be used to make up the deficiency. Extended investigation of our soils has shown that, in California, far more than in the Eastern States, very few soil materials exist that would not naturally produce good crops for some eight or ten years without fertilization, provided they are of sufficient depth and are adequately supplied with moisture. In many cases, forty or fifty years is a low estimate for the duration of profitable production. When, therefore, in orchard or vineyard, it is noticed that after growing well from three to five years or even longer the trees or vines begin to languish, and sometimes even to die, it is not as a rule reasonable to conclude that it is for want of any needful ingredient in the soil.

Importance of the Subsoil.—In our dry climate, depth of the soil is of the first importance, since the roots of culture plants must go deep in order to be secure against the summer's drought. As the latter renders the surface soil, which in the humid region is the main source of supply to plants, practically unavailable during a large part of the season of growth, it is clear that here, more than anywhere, the depth and quality of the subsoil is of the greatest importance, and should be investigated in all cases by the intending purchaser of land before investing. The omission of this simple precaution has led to untold losses and disappointments, which have been the more frequent, as the formation of a "hardpan" at a depth corresponding more or less to the penetration of the annual rainfall is of unusually frequent occurrence in this State. The richest surface soil may be utterly useless for general farming purposes if underlaid at a depth varying, according to the nature of the soil, from one to four feet, by a hardpan or clay impervious to the roots of plants. As a rule, it is not practically feasible to maintain, even by irrigation, a proper supply of moisture in a light soil limited in depth by impervious hardpan at two or three feet, even in cases where the roots of the crop do not habitually penetrate beyond that depth. In the case of fruit trees and vines (the roots of which in certain lands are limited only by a depth beyond fifteen or twenty feet) the objection to such lands in their natural condition is insuperable.

Water Too Near the Surface.—An equally fatal objection, so far as tree culture is concerned, lies against too close proximity of bottom water to the surface. The roots of culture plants will bear submergence only for a very limited time without injury (forty days is considered the extreme limit in the case of vines and orchard trees); hence lands periodically overflowed and not very perfectly drained are unsafe for the planting of trees, as the roots will decay where the air is excluded, and such injured roots will inevitably render the tree unproductive, if they do not kill it in the course of time. The same effects are of course produced wherever leaky irrigation ditches cause the rise of water to within a few feet of the surface. Yet such lands may be well adapted to the growth of certain shallow-rooted crops, particularly of those having a short period of growth. Again, in some kinds of sandy lands, the breaking up of what might be considered a hardpan, as compared with the surface soil, may almost wholly destroy its cultural value by rendering it "leachy," so that neither irrigation water nor fertilizers will be sufficiently retained for the profitable growth of crops. It is therefore clearly necessary that not only the existence of such underground layers be definitely ascertained, but also that their particular nature be considered with respect to the kind of surface soil and to the practically feasible or profitable uses to which the land is intended to be put.

Examination of the Subsoil.—Outside of adobe tracts, an exceedingly simple and effective device for subsoil examination is a steel rod not less than a quarter of an inch in diameter (round or square, preferably the latter), well pointed at one end, and provided at the other with a stout iron ring for the reception of a stout cross-handle, such as is used for post-hole augers. With such a prod or sounding rod, not less than five feet in length, the exploration of the subsoil for hardpan, dense clay layers or bottom water becomes a matter of a few minutes, and a few hours' time suffices to thus explore extended tracts, and perhaps save bad investments of thousands of dollars; or, at the very least, to convey very valuable information as to the probable defects or virtues of the land, not only with respect to root penetration, but also with regard to irrigation, drainage, etc. It is easy also to detect thus the presence of underlying layers of quicksand, gravel or other loose materials through which irrigation water would waste, or which would prevent the capillary rise of bottom moisture within the reach of plant roots, by the large interspaces between their grains. Any remaining doubts as to the nature of such underlying materials at particular points can then quickly be settled by the use of a post-hole auger. The latter serves also most conveniently for the taking of samples to be submitted for examination by the station; but it should be remembered that in no case should any one sample represent the average of more than one foot in depth, and that whenever a material change of resistance to the auger's penetration is observed, the depth at which such change occurs should be noted and a sample taken of the material causing such change, again not to exceed in any case the additional depth of one foot.

Depth Required by Fruit Trees.—The extreme depth to which the boring and taking of samples should reach depends not only upon the nature of the soil, but also upon that of the crop expected to be planted. The tap-root of a pear tree will in almost any soil require a depth of six feet at least to be normally developed; hence pear trees should never be planted in shallow soil. Almonds and peaches, on the other hand, will be content with half that depth, if necessary, provided the soil be rich enough and the supply of moisture adequate, but not excessive.

In coarse, gravelly soils, as well as in hard adobe, it may become necessary to use the pick and spade (not shovel) to dig a vertical hole of sufficient width and depth for observation and for the taking of samples to be examined. In digging such holes the same rule should be observed as above given for the post-hole borings.

When, after careful examination of the soil and subsoil as described above, doubt remains as to the cause of any difficulty observed, or when for special reasons a more thorough examination of the case is desirable or necessary, samples representing the average of not more than one foot each may be taken from the surface down to such depth as may be thought needful in each case, in accordance with the directions which will be sent on application for transmission to the Experiment Station at Berkeley.

The Citrus Census at the South.

S. H. Westfall of Redlands gives the *Fruit Trade Journal* of New York the following figures taken from the county assessors' books, which show that in the five principal orange and lemon producing counties in southern California we have 2,935,713 orange trees and 896,901 lemon trees planted. Allowing 100 trees to the acre (the average), we find that we have 29,357 acres devoted to oranges and 8696 acres devoted to lemons. It is safe to estimate that in 1897 three-fourths of all these orange trees will be in bearing, and a full crop should produce 4,000,000 boxes next year:

	Orange Trees		Lemon Trees	
	Bearing.	*Non-Bearing.*	*Bearing.*	*Non-Bearing.*
Riverside Co.....	482,933	358,190	32,810	100,962
San Bernardino Co..	250,785	750,625	16,050	25,050
San Diego Co.....	49,303	65,272	40,654	334,718
Orange Co.....	132,410	94,620	7,046	51,896
Los Angeles Co.....	310,515	441,060	50,185	237,530
Totals.....	1,225,946	1,709,767	146,745	750,156
	1,769,767	.....	750,156	.....
Total bearing and Non-bearing.....	2,935,713	.....	896,901	.....

With the lemon markets of the East in the low condition that they have been this past season, the matter of disposing of the constantly increasing lemon crop is becoming a pertinent and serious matter to the growers of California, as within three years California will be producing 2,000,000 boxes of lemons.

ENTOMOLOGICAL.

Prof. Smith's Conclusions on the San Jose Scale.

Readers will remember that last May we gave an account of the mission of Prof. J. B. Smith of New Jersey to this State for the purpose of ascertaining why the San Jose scale had become so much less of a menace to California orchards than it was considered to be a decade or more ago. We have just received in bulletin 116 of the New Jersey Experiment Station an outline of Prof. Smith's conclusions, which we present under several headings.

North and South.—The San Jose or pernicious scale is yet present in some number in all the parts of California visited by me. It is nowhere an injurious insect at the present time, and it is not a pest feared by the growers anywhere. There is little doubt that, south of San Francisco, the scale has been kept in check by natural causes and has been reduced by them to its present harmless condition. North of San Francisco natural enemies have had little or nothing to do with controlling the scale.

The Foes of the Scale.—The most effective natural agents for the reduction of the scale in southern California are the twice-stabbed ladybird, *Chilocorus bivulneris*, and the Chalcid parasite, *Aphelinus fuscipennis*, acting in combination with climatic conditions. Both of these insects occur in New Jersey, and were found by me preying upon the San Jose scale in 1894. As to the Australian *Coccinellidæ* or ladybirds, said to be among the most efficient agents in controlling the scale, there is not the slightest real evidence that any of the species ever had or now have the least effect upon it. There is not a particle of reliable observation by a competent naturalist to sustain the assertion made as to the effectiveness of the species of *Rhizobius* against *A. perniciosus*. Furthermore, except for *Rhizobius ventralis*, which feeds chiefly on soft scales, these species are so exceedingly rare that it was simply impossible to collect a colony to be sent into New Jersey at the time of my visit. The great majority of those who talked of *Rhizobius debilis* did not know the species when they saw it, and I have absolute proof that some of those who spoke most positively of the work done by this species confused it with native species of Scymnids. As the result of my observations, and of the information obtained from all sources, I have no hesitation in asserting that none of the Australian ladybirds introduced into California were factors in the control of the San Jose scale in that State.

Southern Reason.—The reasons why the two insect enemies already mentioned were able to control it in southern California are that the scale does not begin multiplying until May, and both parasite and ladybird breed almost continuously and feed upon the scale for a period of from six to eight weeks at least, while it is dormant and before it begins to multiply. In January and February the scales are already being preyed upon by the Chalcid, and at least one full brood of *Chilocorus* matures upon the dormant scales, producing an enormous second brood of larvæ when the scales begin to breed, sufficient to eat up the vast majority of the young before they fix, and clearing out all but a small percentage before they reproduce in turn. Further, there is evidence that during midsummer there is little reproduction by the San Jose scale, and fairly good evidence that very frequently the intense dry heat kills off larvæ and recently-set young. Temperatures of 110° in the shade are not unusual in southern California in some seasons, and, combined with the intense dryness of the atmosphere, this is fatal to many kinds of insect life. It is needless to say that we cannot duplicate these climatic conditions in New Jersey. In our State the "twice-stabbed ladybird," which is so effective in California, survives our winters in only small numbers, and does not make its appearance on scale-infested trees until shortly before the scales themselves begin to reproduce. Long before the beetle larvæ do effective work the trees are covered with scale larvæ, and from that point on the scales outrun our ladybirds continuously, breeding also at least a month after the predaceous insects go into hibernation. The *Aphelinus* is in much the same condition and forms a very small factor in the history of the insect with us.

Northern Reasons.—In northern California, including the Sacramento valley region, natural enemies never obtained control of the scale. The orchardists had the alternative of fighting or losing their orchards. They chose the former, and spent large sums of money in winter treating their trees with lime, sulphur and salt wash. This treatment has been continued ever since, and there is scarcely an orchard in that part of the State which does not depent for its safety from injury by the San Jose scale upon continuous spraying.

[Comments.—We are sorry Prof. Smith did not have time to stay in the State to make further observations and secure fuller information about California climatic conditions. His conclusions seem to be:

First, that the scale-eaters were not the chief causes of the reduction of the scale.

Second, that at the south it was mainly the heat that accomplished this.

Third, that at the north spraying has saved the trees and that continuous spraying is the safeguard.

Prof. Smith makes the common mistake of the flying observer, which is that because one place is south of another it is relatively hotter. If he had studied the records he would have seen that temperatures of 110° are just as common in the northern interior valley as they are anywhere on the coast side of the mountains in southern California. If, then, the heat and drouth destroy the scale by shortening its breeding season in the south, these

agencies are just as strong at the north. The conclusion that the price of lessened injury from the scale at the north is continuos spraying is not correct. If Prof. Smith had visited San Jose, Fresno and other places he would have found orchards unsprayed for a decade now comparatively free from scale, which once threatened to utterly destroy them. This is the plain fact in many places. We hoped Prof. Smith would have found out just why this is so, but he has, unfortunately, added nothing to the California knowledge of the problem. We believe, however, that his conclusions as to scale fighting in his own State are sound.—ED.]

THE POULTRY YARD.

How the French Train Turkeys to Sit.

Our California turkey growers will be entertained, if not instructed, by an account which a French woman writes for an English journal of the way they handle turkeys for hatching in sunny France. In large centers of poultry raising in France, where enormous quantities of eggs are hatched in winter, turkey hens are mostly used as sitters. Each breeder possesses from thirty to one hundred of these fowls, which are brooding without interruption the whole year round. Even the large poultry hatchers (this is a separate trade) who have always twenty or more incubators at work have them to do a part of the labor. To those who do not possess an incubator turkeys are still more precious, as they generally get broody after a few days' training.

The Hen Turkeys' Training Quarters.—Secure a box long and wide enough to give the turkey her complete ease, though not high enough to allow her to stand up in it. This box must be shut by a cover, fastened by hooks or kept down by a heavy stone. Four laths nailed together over a piece of wire form the best cover to use; but one or two boards put over the box, with a little space left between them for air, will do quite well. A piece of canvas covers the whole, and keeps the bird in the dark. On the bottom of the box place a good bed of hay, slightly hollowed out in the center, and in this place a few clear or china eggs. Then take the turkey gently, and give her five or six pieces of bread, soaked in red wine or brandy and water (half and half) or whisky and water, or any other liquor capable of giving a slight "elevation," after which place her on the nest and cover her. Morning and evening take her from the nest, put her under a coop, give her water, grain, a dust bath, and again bread soaked in some kind of spirits. Repeat this until you see that the turkey settles herself on the eggs and remains quietly on them without being covered. Then you may give her good eggs and depend upon her to do her duty conscientiously.

Further Details.—An important point upon which I cannot insist enough is the necessity for looking for vermin before placing the hen on the nest, in order to prevent her becoming troubled by these pests and becoming restless, as such large birds are more liable than others to break eggs. A good sprinkling of pyrethrum powder through the feathers and in the hay of the nest is to be recommended. The first operation should take place by daylight. The turkey, being plunged from full light into complete darkness, when the effect of the wine begins to act and makes her feel rather funny in the head, gets so frightened that she will remain on the eggs without moving. The contact with these, and her long tete-a-tete with them, develops her maternal instincts and, as a rule, a few days are sufficient to provoke the brooding fever. I have known turkeys to get broody the day after they were set. I never train them more than eight or nine days, and give liberty to those that have not taken to the nest by that time. If properly managed, they will sit from six to eight weeks consecutively, without showing any trace of fatigue. Some breeders make them brood much longer, but it is cruel and dangerous, for sometimes the birds die on the eggs. When they do sit it is not necessary to feed them twice a day; take them off in the morning only, but let it be regular.

Kickers.—Not all turkeys are willing to be forced to sit; still the restives are rare. When these birds are desired as sitting machines they ought to be selected carefully. Breeders who intend to go in for them should purchase one or more, as needed, and give them a trial. Those which do not give entire satisfaction can be fattened and sent to market, and will pay for the remainder. Above all others, may it be animated or artificial brooders, turkeys are the best. To brood with them is not so expensive as using either incubators or foster mothers, and gives much less trouble.

Board and Lodging.—In the country a flock of turkeys, be it very large, costs nothing to keep. Mine are turned out on a lawn partly planted with wood, and they never get a handful of corn, or any meal, until severe winter sets in—that is, when the snow covers the ground. All are in excellent condition. At night they come home, their crops always full, and are shut up in a stable, where they find their ideal perch—an old wheel planted on a stake a few feet from the ground. In our climate the winters are not long, and rarely very severe. We may calculate to have to feed our turkeys during two months. The manure which they produce in great quantities the whole year round pays amply for the expense of the food during that period, which is also the time we require their services for brooding. Thus the cost of feeding ought not to be taken into account. Nevertheless, if we do, the food of four turkeys, which will cover one hundred eggs, will not come to the cost of heating an incubator of the same capacity.

Turkeys as Mothers.—Turkeys are very attentive mothers and protect their chickens well. I never had one taken by varmints or birds of prey, which abound in the grounds around, because of the proximity of a forest, although my turkeys, with their young ones, are free to run where they like, and go sometimes 300 or 400 yards from the house. If they know each other, several may be allowed to run together without danger of fighting. These goodies will accept any change or addition of chickens and brood the newcomers as tenderly as their own. I have often seen turkeys whose chicks had been joined to others adopt large chickens, more than two months old, which had been forsaken by the hen.

Training turkeys to sit does not take away their laying qualities when they are properly managed. Therefore allow them to lay their clutch of eggs after they have brooded and raised the early chickens. They will ask to sit immediately they have finished laying. You may let them, and have no fear of overworking.

Hens in Hard Times.

TO THE EDITOR:—I wish every farmer would give hens a chance. It is such a nice thing to fill the grocery basket with groceries and have the hens pay the bill. Sour milk to drink and barley and wheat or corn to eat, with some sort of green or vegetable food, will make hens lay about as many eggs as any fancy feeding will do, and it does not require nearly as much labor. I know one man at Watsonville whose hens lived on rolled barley, grass and sour milk and gave great results this last summer; and I have never seen hens lay better than when fed on wheat and barley for grain, cabbage and beets for vegetables, and sour milk to run to as they wished.

When wheat is double the price of barley, I say try making the grain food largely of barley.

Hens are small business, but to run a grocery bill is smaller, and there would not be one-half as much howl over hard times if people would stop the miserable credit system of trading.

Potatoes and curd that a man owns make a fine meal in comparison to a big unpaid store bill, and when more people will try that small hen business in connection with their orchards and farms there will be less grocery bills unpaid at the end of the year.

The great trouble with people who get interested with the hens is that they usually make a big start that discourages them before they make any profit. To make them pay, try them first in the most moderate way, and always hatch plenty of April and May pullets, for these will bring the high-priced eggs and do not cost any more to raise or to produce them than it does to raise pullets to lay at the same time old hens will lay eggs. There is not a million in market poultry for any one man, but there is fair return for the labor for the man who uses intelligence in his management of it.

Santa Cruz County. J. W. FORGEUS.

THE FIELD.

Summer Crops for Moist Lands.

TO THE EDITOR:—Can you not suggest some crop for lands that are summer-fallowed for wheat and barley of the coming year?

On the black or "adobe" lands near this city the wild oat has taken complete possession. I have known parties to plow twice in a season, besides using a harrow, and still have oats in their crop, and good, clean seed was used at that!

If we could have something that requires the cultivator all season, it appears to me that we might make something off the crop itself, and by keeping the ground moist all season, induce the germination of the oats so that in time they could be eradicated. I have thought of corn or beans—Blackeyes, for instance—but have been told by experienced farmers that neither one does well on "adobe" with or without irrigation, as it was "not the right thing."

I understand that the beans raised in the coast counties have but little water in the shape of rain—in fact, that the fogs are their great source of moisture. We do not have the fogs, but the soil is always saturated by the winter rains. It is a question of soil in my case, as I have raised both corn and bean this year on my peat lands and beans on the sedimentary lands, and know that the climate or locality is O. K. Please give me some suggestions on the subject, or if any of your readers have had experience in that line, and are philanthropic enough to give it, I should like to have advice.

RICHARD RUSSELL SMITH.

Stockton, Oct. 28, 1896.

[What can readers suggest? It is not so much what will grow, but what can be grown that will be profitable. There are very many cultivated crops which will yield immensely, but low prices immediately ensue. This applies to nearly the whole list of field vegetables, of which the moist lands around Stockton could supply enough to feed an empire. We believe that the Stockton country is destined to be a region of large animal products of nearly all kinds, but present extension in these lines strikes the same snag which confronts the vegetable grower—prices run down too low. If some reader can suggest profitable cultivated summer crops for rich, moist lands, he will help a great many people besides our correspondent.—ED.]

THE DAIRY.

Dairying in California.*

NUMBER II.

THE LEADING DAIRY COUNTY OF CALIFORNIA.

The foregoing sketch of the dairy regions of California includes mention of the counties which lead in this industry. The greatest of all the counties in amount of product, in number of modern establishments, and first in the construction of a modern creamery, is Humboldt county, with a butter product of 2,843,452 pounds in 1892. Althought the county has other very important interests, it is the estimate of several well-informed persons that over one-half the population is concerned in dairying, and in some parts of the county quite three-fourths of the people are thus engaged. Probably Humboldt, and Marin in a less degree, are the only counties in which such high precentages rule but there are parts of other counties in which similar proportions could be given. California has always been marked by local specialization of products. This is to some degree a rational deduction from clearly discerned differentiation in local climates, and in some degree attributable to popular conceptions of greatness in farming policy. It was a very early notion in California that the farming operations of an individual must necessarily cover a vast area of land. It was easy to acquire such areas in early days, and the influences of such acquisitions and of farming methods required by them is still strong, though its departure can now be clearly foreseen. Aside from this, however, there is good reason for much specialization, because conditions changed so greatly. On the moist lands of Orange county, for instances, probably about one-third of the people are engaged in dairying, while on the adjacent higher lands there is not only little dairying but probably many of the fruit-growers who used those lands do not even keep family cows.

CALIFORNIA SYSTEM OF LARGE HOLDINGS.

The size of the dairy farms and the number of cows to each vary within wide limits. As stated, the old plan was to have very large herds and farms; but the old plan was also to have rather small dairy buildings and enough of them. They were so located that part of the cows could be conveniently driven to each for milking, and a butter or cheese maker was located at each of these branch establishments. As each of these branches must have its own foreman and cook, as well as its own gang of milkers, it was soon seen that a system of tenantry would both relieve the owner and inspire the foreman to watchfulness and zeal. It would also be economical to have the foreman's wife for coook. The result was that a lease price was put upon the branch at so much per cow furnished by the owner, the lessee to furnish his own labor, force, and utensils, and to raise an agreed number of calves each year for the owner to keep up the number of good cows and to furnish materials for necessary fencing and buildings, for the construction of which the tenant supplied the labor. The tenant paid a cash rent; consequently the produce of the dairy and the swine yard belonged to him, and there was no division of products to worry about. While dairy prices were good this arrangement was mutually satisfactory to owner and lessee, and with a good large herd of cows the latter was able to secure an income which enabled him to hire all the labor necessary to maintain his family in good style and have a comfortable bank account, which allowed the purchase of good appliances, etc. In this way the system of large single dairies came about in California. Some tenants handled as many as 300 cows and manufactured as

* By Prof. E. J. Wickson of the University of California; issued by the U. S. Dept. of Agr. at Washington, as Dairy Bulletin No. 5 of the Bureau of Animal Industry.

much milk as the smaller co-operative establishments at the East received from their patrons. The lease rate per cow naturally declined with the coming of lower values for dairy produce from the old range of $25 to $30 to the present rate of $16 to $20. The tenant's net income declined even more notably. The result has been that many American tenants have saved themselves by introducing creamery outfits, while others gave way to Europeans, who could live on narrower margins and were able to secure labor of their own nationality for less than the former tenants paid. Some of these European dairymen are very bright and enterprising men, and now figure as large dairy proprietors and leaders in the commercial as well as the producing branches of the industry; others are very ignorant and too often squalid, and form a decided barrier to local dairy progress.

Although large dairy holdings still prevail in the older regions, there has been, during the last twenty years, great increase in the number of small dairy farms, and this has been due in part to the subdivision and sale of the old holdings and in part to the advance of the interest into newer parts of the State. The present range of herd numbers of creamery patrons in several counties is as follows:

County.	*Average number of cows to the farm.*
Siskiyou	30
Humboldt	40
Mendocino	25
San Luis Obispo	75
Santa Barbara	100
Los Angeles, Orange, and San Bernardino.	12

CAPACITY OF CAIFORNIA DAIRY LANDS.

The number of acres required for the keeping of a cow in California is determined by local conditions of soil and climate. There are cases in which one acre to the cow can be cited, and others in which two and even three are allotted to the cow in estimating the capacity of pasturage. Beyond this there are pastures so scanty that the growth of five acres will not exceed the wants of a single animal. The best records are made in the moist, rich, coast valleys of Humboldt county and on the alfalfa lands in the irrigated or naturally moist sections of the interior valley. Two instances are given by correspondents in Eel River valley, Humboldt county, viz: Mr. A. Kansen, of Ferndale, keeps 35 cows on 34 acres, secures an average yield of 300 pounds of butter and buys no feed whatever. The cows are on pasture nine months of the year and for the other three are fed hay and roots, all grown on the 34 acres. J. E. Brown, also of Ferndale, keeps 35 cows on 40 acres, his average yield and feeding being like the preceding. These records are strictly credible when one knows the natural pasturage conditions prevailing and the favoring climate. The cows are simply good selected grades of dairy breeds. The average in the dairy sections of Humboldt county, that is, on the best of the valley lands, is 1½ acres to a cow.

THE DAIRY BREEDS IN CALIFORNIA.

Although all the leading dairy breeds have secured introduction to California, only three have made a wide and enduring impression on the ordinary run of dairy cattle. They are, both in historical order and extent of influence, as follows: The Shorthorn, the Jersey, and the Holstein-Friesian. The Ayrshire, the Devon, the Guernsey, and others only show their impress in localities adjacent to the few imported herds; they have never taken widely. On the other hand, one can hardly go into the dairy regions anywhere without being able to recognize the marks of the three breeds first named. The shorthorn gave the first great improvement to the common stock, which was, as already stated, of mixed Mexican and American origin. The breeding of dairy families of Shorthorns has continued with due enterprise and care, and sires of such parentage have always been in request. The Jerseys next secured wide introduction on the basis of cream and butter points, and the Jersey cross became very popular and is still largely used. Then came the Holstein-Friesians, with their great milk yield, and many dairymen, who desired to correct the tendency to decreased size resulting from the Jersey cross, used the black-and-white stock to increase size and capacity. This comment fairily represents the popular conception among dairymen of the relations of these three breeds. We have, of course, individuals who adhere strongly to continuous use of sires of the same breed and others who rely upon continuous selection from dairy stock of uncertain ancestry. On the whole, dairy stock of the State is of very good quality and capacity.

DRY FEED AND ITS CHARACTERISTICS.

In the descriptions of the dairy regions of California previously given, there are references to the different lengths of the natural pasturage season in each. Those remarks apply to the natural growth of succulent pasturage. Besides this, there is in California what is locally known as "dry feed," which is quite an important factor in all branches of our live-stock husbandry. This dry feed is simply the growth of grasses and clovers which have naturally matured by the advancing drought of the summer season, and constitue, therefore, an unmown hay on which the animals subsist. It will occur to the distant reader that it would be better to cut and stack this hay when it is in its best condition than to allow it to desiccate in the sun and wind. Of course, when such wild growth is in suitable quantity on lands convenient to mow, this course is often taken nowadays, but the growth on hillsides or in canyons and the aftermath of low-growing grasses and clovers would cost more than it would yield in the mowing, and much of it, like the rich seed pods of the bur clover (*Medicago denticulata*) and other short growth of leaf and seed, could not be secured by any machinery except the oral outfit of the grazing animal. Besides this, dried herbage is richer in nutritive materials than a stranger might think, because its maturity is forced upon it by the heat and drought, and it retains such richness in its dried fibers that it is not at all to be compared with the dead grasses of humid climates. The most obvious demonstration of this fact is the sight of cattle, sleek and fat, on brown fields, apparently, too, as bare as they are brown, gaining full nourishment from the rubbish-like seeds and dry herbage spread over the sun-baked soil.

PASTURAGE SEASONS IN CALIFORNIA.

Speaking generally, the growth of grass in all parts of California, except the mountain region, begins with the fall rains. These rains come from the north and occur first in the upper coast region and then in the northern half of the interior valley region. The mean date for this opening of the growing season in northern California is October 8. Later the lower coast region is reached, the mean date being November 1 for the southern half of the State. The ideal, or as common parlance goes, the "good year" in one in which the rains occur at short intervals, so that continuous pasture growth is maintained after the naturally sown seeds are once germinated. In such a year the cattle are wading knee-deep in succulent vegetation from January until May. The landscape is carpeted with the varied hues of wild flowers, the cattle are sleek, and the flow of milk is forced by agreeable temperatures and a wealth of juicy forage. Except on pastures heavily overstocked there comes after the rains are over a good amount of dry feed, already described, and the scattering of enough seed to insure a good start of plants at the coming of the following fall rains.

This is the "good year" during which the stock find abundant feed in the fields for the full twelve months, and it is this good year which is to be credited with both the fullness and the lack in California dairying. The good year does not always come, and the modifications of it are sometimes trying. The rains, which sometimes come too early, may be followed by two months of drought; they have given moisture enough to spoil the dry feed and to start the seeds of the new growth which the drought destroys. This time the fields are really bare and yield no forage, and the dairyman having learned to trust in a good year, has to risk this year's profit by buying feed which he ought to have grown, and would have grown if he had not indulged the illusion that he would not need it. In his dairy economy he has planned to have his milk flow come with the new grass, and his cows shrink because, instead of full pasturage, they are given a scant ration of hay, which is doled out because the backwardness of the pastures has induced an unusual demand and a consequent advance in the price of hay.

Again, perhaps the season may depart from the ideal because of excessive rains and cold, driving storms in which his cattle suffer from exposure for lack of shelter, which the counting on a good year has convinced him was unnecessary. Again, there may be a departure in the shape of unusual succession of frosts and possibly a snow flurry, and then the cattle suffer both from scant growth of herbage and lack of shelter. It is because of this too great trust in California skies and winter fields that the old style of open-air dairying is often disappointing. It is a mark of the present progressive dairying to provide extra feed and shelter and good dairy buildings generally, because they are a surety against loss, although they may not always be required.

THE MILKING SEASON AND WINTER FEED.

These statements are necessary to an undestanding of the length of our pasturage season and the vicissitudes which attend it. The length of the milking season will average about nine months; in many of the better herds it is ten months, and that is about the period which is aimed at by others who do not quite attain it. On the other hand, in some of the remote counties, the cows divide their time about equally between resting and milking. In such cases the cows have no "rustle" for feed and shelter during the winter, and are milked only during the grass season of the higher altitudes.

In all except the mountain region the length of the pasturage season is about nine months; and though usually the cattle are kept afield the whole twelve months, for three months they are given some supplementary feed. In dairies adjacent to San Francisco and Los Angeles, and here and there elsewhere, there are dairymen who find it profitable to follow modern methods is using rations of various purchased feedstuffs in connection with hay and pasturage, but over the greater part of our dairy area the cows have only what the ranch produces. In the alfalfa districts they have alfalfa pasturage in summer and alfalfa hay in winter, for this plant does not make a good winter growth, though in the same regions there is often a growth of salt grass, which adds succulence to their hay ration. In the coast regions, where alfalfa does not find the heat it desires, dependence is placed upon hay of the wild, winter growths, or of barley or wheat cut before ripening. In Humboldt and Del Norte counties, as well as along the moist river lands of the central part of the State, there is a growth of the common red clover (*Trifolium repens*), which yields a heavy cut of hay; but this plant dislikes the drought of other parts of the State. Nearly everywhere, on the moister or irrigated lands, very heavy crops of roots and narrowfat squashes are grown in the summer for late fall and winter feeding, and the climate is such that these products need no storage, but are fed right from the field whenever they are needed.

SUCCULENT FOOD DURING THE SUMMER DROUGHT.

It has been shown above that in our best years very little winter feeding is necessary, and even then only for a short period. The time when extra feeding is most desirable to maintain the flow of milk is in the late summer and fall. Some dairymen plan to have this their closed season, and with the cows coming in fresh in the fall, about the time when the new grass should put in its appearance, they practice winter dairying with fresh pasturage, which would seem to be a very natural arrangement for this climate. But even with this arrangement, or without it, it is exceedingly desirable to maintain the flow as late into the summer or fall as it can be profitably done. This is the season of "dry feed," previously mentioned, and even if such feed be abundant and rich, as described already, its lack of succulence checks the milk flow, and it gives the product something of the character of the Eastern winter butter. It is to maintain the character of grass products, as well as to increase the quantity of them, that much effort is made in those sections where the pastures dry up early. Available moist land is made to grow fodder corn or sorghum, which does vastly better in the hot, dry air of the interior than roots and squashes and other crops which furnish succulence in a time of drought. It is for this part of the year, and not for winter, that the silo is now being used by some dairymen, both North and South, and it is probable that it will be used more generally in the future than it has been in the past. To preserve for autumn the succulence of spring growth seems to be its chief function in California. At this time of the year, too, there is now becoming available considerable quantities of pulp from the sugar-beet factories, and this is also being siloed for winter use when necessary.

THE BEST DROUGHT-RESISTING FORAGE PLANTS.

For the improvement of California pastures it has long been seen that drought-resisting grasses and forage plants are very desirable. The great mass of natural growth, and the chief of the introduced plants which found their way in at some remote period, are annuals. As soon as overstocking reaches the prevention of self-seeding, the pastures decline. For years the cry has been for perennial plants which would hold life in the root, and continual effort has been made in this direction by the California Experiment Station and by enterprising individuals. Our greatest acquisition has unquestionably been alfalfa, but alfalfa does not endure hard, dry soil; it requires depth and permeability and moisture within reach of its roots, and heat greater than some of our coast regions afford, to do its best. Of all the introductions of the last quarter of a century the best can be quickly named. They are perennial rye grass, especially from seed which comes to us after acclimation in Australia, and is locally known as "Australian rye grass;" orchard grass; meadow soft grass (*Holcus lanatus*), locally called "mesquite;" Texas blue grass (*Poa arachnifera*); tall oat grass (*Arrhenatherum avenaceum*); Schrader's brome grass (*Bromus unioloides*), and Hungarian brome grass (*Bromus inermis*). These grasses make a good winter growth, and being once well-established maintain life in the root through the dry season, not only furnishing moderately succulent forage during the dry season, but starting into active growth with the first fall rains. They will not do this in our very driest lands, but they will hold on in regions fit for dairying. They are coarse grasses compared with the choice summer grasses of humid regions, but, under the circumstances, they serve a very good purpose.

It is the spontaneous growth during our rainy season which should be compared with the summer growth of humid regions. This growth includes a large number of native species of grasses and clovers, different groups of species prevailing in the different parts of the State. Two foreign plants introduced in remote times also notably contribute to our winter pasture. They are the bur clover (*Medicago denticulatr*), already mentioned, and alfilerilla (*Erodium cicutarium*). They cover the ground with a mat of the most tender herbage after the earliest fall rains, and respond with freedom of growth proportionate to the abundance of the winter rains, often yielding a good cut of hay in some parts of the State.

(*To be Continued.*)

CEREAL CROPS.

The World's Wheat Supply.

Course of Wheat Production and Exportation in the United States, Canada, Argentina, Uruguay, Russia and British India from 1880 to 1896.

In answer to many requests for information regarding the quantities of wheat produced by the principal countries contributing to the world's supply, the United States Department of Agriculture has "gathered together such official statistics as were available," and issued them in the form of a department bulletin. The countries treated are the United States, Canada, Argentina, Uruguay, Russia and India. The following table shows by five-year periods the average annual production of wheat in each of these countries, so far as reliable figures could be obtained, from 1881 to 1895, inclusive:

AVERAGE ANNUAL PRODUCTION OF WHEAT, BY FIVE-YEAR PERIODS, IN SIX OF THE PRINCIPAL WHEAT-EXPORTING COUNTRIES.

Countries.	Average Annual Product.		
	1881-1885.	1886-1890.	1891-1895.
	Bushels.	*Bushels.*	*Bushels.*
United States	435,685,744	443,847,400	490,246,218
Canada	39,200,000	36,294,636	51,405,800
Argentina	*a* 13,000,000	22,300,000	61,600,000
Uruguay	(*b*)	(*b*)	6,143,000
Russia	*c* 224,106,611	233,400,988	301,406,600
India	*c* 269,721,362	245,657,238	224,909,600

a Annual average for the two years 1884-1885.
b No statistics available.
c Annual average for triennium 1883-1885.

The averages presented above show a very decided increase in the wheat productiou of the United States, Canada, Argentina and Russia during the last fifteen years, and a similar growth would undoubtedly be shown for Uruguay were statistics obtainable for the entire period. India is the only one of the six countries which suffered a decline in production.

The figures given in the subjoined table show the average annual exports of wheat, including wheat flour, from each of the above-named countries during the five-year periods indicated. In preparing this table the quantity of wheat flour exported was converted into its equivalent in grain at the rate of 4½ bushels of wheat to a barrel of flour weighing 196 pounds, and then added to the exports of grain. The statistics quoted for Canada and Uruguay represent the net exports, i. e., the excess of exports over imports. The imports of wheat into the other four countries are so small that they are not taken into account. In Argentina, Uruguay and Russia the commercial years coincide with the calendar years. In the United States and Canada they comprise the twelve months ending June 30th, and in India the twelve months endiug March 31st. The figures given for the three last-mentioned countries are for the commercial years ending in the calendar years subsequent to those named. The table is as follows:

AVERAGE ANNUAL EXPORTS OF WHEAT AND WHEAT FLOUR, EXPRESSED IN BUSHELS OF GRAIN, BY FIVE-YEAR PERIODS, FROM SIX OF THE PRINCIPAL WHEAT EXPORTING COUNTRIES.

Countries.	Average Annual Exports.		
	1881-1885.	1886-1890.	1891-1895.
	Bushels.	*Bushels.*	*Bushels.*
United States:			
Wheat	83,361,016	64,987,221	101,021,444
Wheat flour	38,796,027	50,801,553	70,710,036
Total	122,157,043	115,788,774	171,731,480
Canada:			
Wheat	2,863,905	1,863,652	8,744,226
Wheat flour	42,313	662,743	1,452,375
Total	2,906,218	2,526,395	10,196,601
Argentina:			
Wheat	1,834,298	5,918,318	33,013,082
Wheat flour	180,820	328,340	1,604,299
Total	2,015,118	6,246,658	34,617,381
Uruguay:			
Wheat	*a* 42,986	*a* 159,947	1,046,920
Wheat flour	120,282	310,927	572,569
Total	77,296	150,980	1,619,489
Russia:			
Wheat	73,721,407	93,039,121	102,971,200
Wheat flour	2,468,366	2,297,241	2,610,417
Total	76,189,773	95,336,362	105,581,617
India:			
Wheat	34,352,261	30,440,072	27,747,751
Wheat flour	228,446	935,470	1,503,572
Total	34,580,707	31,375,542	29,251,323

a Net imports.

The foregoing tabular statement indicates in a striking manner the remarkable growth which has occurred since 1880 in the volume of wheat distributed by some of the principal wheat-exporting countries. The average yearly export of wheat, both grain and flour, from the United States during the three five-year periods from 1881 to 1896 increased about 40 per cent, and Russia, whose exports of wheat rank next to those of the United States in volume, made a gain nearly equal in rate. The exports of wheat from Canada, although rather unimportant when compared with the much greater shipments from the United States and Russia show a growth which is proportionately even more rapid, the average net shipment per annum having more than trebled since 1881-1886. The most striking growth in wheat exportation, however, is exhibited by the South American countries, Argentina and Uruguay. The average anuual wheat exports of Argentina increased from about 2,000,000 bushels in the five years 1881-1885 to nearly 35,000,000 bushels in 1801-1895, while in the same space of time Uruguay's net exports per annum advanced from about 77,000 bushels to more than 1,600,000 bushels. India alone of the six countries under consideration shows a diminished export trade, a natural result of decliuing production. The aggregate quantity of wheat exported from the six countries combined during the five-year period 1881-1885 averaged about 238,000,000 bushels per annum. In the five years 1801-1895 the yearly average export amounted to about 352,000,000 bushels, or a total gain of 114,000,000 bushels.

To show in greater detail the course of wheat production and exportation in the United States, Canada, Argentina, Uruguay, Russia and British India, a set of tables is appended giving official statistics, so far as available, as to the area of wheat and the quantity produced and exported each year since 1880. From these tables it will be seen that the maximum of both area and production in the United States was reached in 1891. Since that year there has been a considerable diminution in area and product, accompanied by an even greater falling off in the quantity of wheat exported, the total shipments of grain and flour during the fiscal year 1895-96 amounting to only 129,000,000 bushels as compared with 228,000,000 bushels in 1891-92. The exports of grain fell off much more rapidly than those of flour, the latter showing only a slight decrease during the five years.

The crop year of 1891 was an unusual one in several of the great wheat-growing countries. Coincident with the largest wheat production ever recorded for the United States, there was a partial or total failure throughout much of Europe. The Russian crop was exceedingly light and resulted the following year in greatly diminished exports. Since this temporary setback, however, Russia has more than regained the lost ground, and the last few years have witnessed a rapid growth in exportation, as well as production. Canada, like the United States, produced her largest crop in 1891. Her net exports increased in the fiscal years 1892, 1893 and 1894, but have since declined. The exports of wheat from British India reached their maximum in 1891-92, the years subsequent showing a falling off, which has greatly lessened India's importance as a contributor to the world's wheat supply. Her shipments during the past year (1895-96) amounted to only 20,000,000 bushels, as against 58,000,000 bushels in 1891-92. In Argentina and Uruguay the progress made in wheat raising during the last few years has been almost phenomenal. The Argentine crop increased from 36,000,000 bushels in 1891 to 75,000,000 bushels in 1895, and during the same period the remarkable gain of from 15,000,000 to 40,000,000 bushels (wheat and flour) was made in exportation. Uruguay's crop, which amounted to less than 3,000,000 bushels in 1891, advanced with such rapidity that in 1895 it was returned at about 10,000,000 bushels.

In 1891 the imports into Uruguay exceeded the exports; but in 1894, the latest year for which the trade returns are available, shows an excess of nearly 6,000,000 bushels (wheat and flour) in favor of the exports.

WHEAT AREA, PRODUCTION AND EXPORTATION OF THE UNITED STATES, CANADA, ARGENTINA, URUGUAY, RUSSIA AND BRITISH INDIA, FROM 1880 TO 1896, ACCORDING TO THE OFFICIAL STATISTICS OF THE SEVERAL COUNTRIES.

UNITED STATES.

Calendar Years.	Area.	Product.	Years ending June 30—	Exports. Grain.	Exports. Flour.
	Acres.	*Bushels.*		*Bushels.*	*Pounds.*
1880	37,986,717	498,549,868	1881	150,712,509	1,557,666,096
1881	37,709,020	383,280,090	1882	95,962,407	1,160,127,920
1882	37,067,194	504,185,470	1883	107,352,342	1,804,652,752
1883	36,455,503	421,086,160	1884	70,450,007	1,793,891,960
1884	39,475,885	512,765,000	1885	84,935,183	2,087,036,420
1885	34,189,246	357,112,000	1886	58,105,141	1,603,203,756
Annual average, 1881-1885	36,979,388	435,685,744	Annual average, 1882-1886	83,361,016	1,689,782,562
1886	36,806,184	457,218,000	1887	102,330,395	2,257,616,004
1887	37,641,783	456,329,000	1888	66,279,993	2,345,365,204
1888	37,336,138	415,868,000	1889	46,635,624	1,837,471,188
1889	38,123,859	490,560,000	1890	54,558,144	2,397,865,372
1890	36,087,154	399,262,000	1891	55,131,948	2,225,131,944
Annual average, 1886-1890	37,199,024	443,847,400	Annual average, 1887-1891	64,987,221	2,212,689,942
1891	39,916,897	611,780,000	1892	159,118,721	2,978,586,716
1892	38,554,430	515,949,000	1893	117,693,859	3,257,586,444
1893	34,629,418	396,131,725	1894	88,631,650	3,304,468,468
1894	34,882,436	460,267,416	1895	76,651,496	2,992,702,832
1895	34,047,332	467,102,947	1896	63,011,494	2,865,730,308
Annual average, 1891-1895	36,406,103	490,246,218	Annual average, 1892-1896	101,021,444	3,079,814,954

CANADA.

Calendar Years.	Area.	*a* Product.	Years ending June 30—	Net Exports. Grain.	Net Exports. Flour.
	Acres.	*Bushels.*		*Bushels.*	*Pounds.*
1880	2,342,355	33,369,949	1881	1,752,590	51,944,312
1881	(*b*)	25,000,000	1882	3,502,313	60,251,184
1882	(*b*)	50,000,000	1883	5,772,161	44,077,460
1883	(*b*)	30,000,000	1884	*c* 583,254	*c* 55,031,508
1884	(*b*)	48,000,000	1885	2,295,662	*c* 79,283,568
1885	(*b*)	43,000,000	1886	3,332,644	39,201,176
Annual average, 1881-1885		39,200,000	Annual average, 1882-1886	2,863,905	1,842,949
1886	(*b*)	40,000,000	1887	5,576,201	69,932,604
1887	(*b*)	37,000,000	1888	1,977,977	56,976,416
1888	(*b*)	31,000,000	1889	60,364	*c* 24,110,156
1889	(*b*)	30,000,000	1890	*c* 264,154	*c* 6,957,804
1890	2,723,884	43,473,182	1891	1,967,870	48,489,616
Annual average, 1886-1890		36,294,636	Annual average, 1887-1891	1,863,652	28,866,135
1891	(*b*)	62,635,000	1892	8,609,459	67,464,572
1892	(*b*)	49,701,000	1893	8,851,777	74,103,092
1893	(*b*)	42,650,000	1894	9,418,528	76,863,360
1894	(*b*)	44,583,000	1895	8,097,141	34,604,976
1895	(*b*)	57,460,000	1896	(*b*)	(*b*)
Annual average, 1891-1895		51,405,800	Annual average, 1892-1895	8,744,226	63,259,000

a As no returns of the wheat crop in some of the minor provinces from 1881 to 1889, inclusive, were published, the totals here given for those years were partly estimated.
b No statistics available.
c Net imports.

ARGENTINA.

Calendar Years.	Area. (*a*)	Product. (*a*)	Exports. Grain.	Exports. Flour.
	Acres. (*b*)	*Bushels.* (*b*)	*Bushels.*	*Pounds.*
1880	(*b*)	(*b*)	42,829	3,137,776
1881	(*b*)	(*b*)	5,772	2,838,193
1882	(*b*)	(*b*)	62,658	1,209,738
1883	(*b*)	(*b*)	2,232,329	10,679,931
1884	(*b*)	12,000,000	3,986,623	8,232,834
1885	(*b*)	14,000,000	2,884,109	16,417,826
Annual average, 1881-1885		*c* 13,000,000	1,834,298	7,875,724
1886	(*b*)	14,000,000	1,391,265	11,601,095
1887	(*b*)	14,000,000	8,739,987	11,907,256
1888	2,036,000	11,500,000	6,574,431	14,092,778
1889	(*b*)	40,000,000	837,982	7,409,387
1890	2,700,000	32,000,000	12,047,924	26,494,607
Annual average, 1886-1890		22,300,000	5,918,318	14,301,025
1891	3,300,000	36,000,000	14,534,141	15,465,269
1892	4,000,000	57,000,000	17,273,565	41,554,505
1893	4,600,000	80,000,000	37,042,650	83,600,637
1894	5,000,000	60,000,000	59,094,067	89,855,087
1895	5,300,000	75,000,000	37,120,987	118,905,101
Annual average, 1891-1895	4,400,000	61,600,000	33,013,082	69,876,120

a There are no official statistics as to the wheat area and production of Argentina. The figures here given are commercial estimates, and must be regarded as mere approximations.
b No statistics available.
c Annual average for the two years 1884-1885.

URUGUAY.

Calendar Years.	Area.	Product.	Net Exports. Grain.	Net Exports. Flour.
	Acres.	*Bushels.*	*Bushels.*	*Pounds.*
1880	(a)	(a)	b 115,264	1,624,700
1881	(a)	(a)	83,382	4,744,811
1882	(a)	(a)	b 318,085	453,360
1883	(a)	(a)	b 41,048	5,008,414
1884	(a)	(a)	b 12,364	2,427,578
1885	(a)	(a)	73,183	13,560,561
Annual average, 1881–1885	.....	.....	b 42,986	5,238,945
1886	(a)	(a)	78,221	26,265,913
1887	(a)	(a)	99,857	19,093,476
1888	(a)	(a)	372,848	34,753,239
1889	(a)	(a)	b 1,291,379	b 6,365,846
1890	(a)	(a)	b 59,283	b 6,033,889
Annual average, 1886–1890	.....	.....	b 159,947	13,542,579
1891	(a)	2,805,000	b 29,481	b 219,466
1892	393,430	3,292,000	b 41,757	b 66,739
1893	512,466	5,703,000	190,306	25,383,803
1894	503,580	8,915,000	4,068,614	74,656,583
1895	(a)	10,000,000	(a)	(a)
Annual average, 1891–1895	c 469,825	6,143,000	d 1,046,920	d 24,938,545

a No statistics available.
b Net imports.
c Annual average for the triennium 1892–1894.
d Annual average for the quadrennium 1891–1894.

RUSSIA (INCLUDING POLAND).

Calendar Years.	Area.	Product.	Exports. Grain.	Exports. Flour. (a)
	Acres.	*Bushels.*	*Bushels.*	*Pounds.*
1880	(b)	(b)	36,553,741	92,105,845
1881	(b)	(b)	48,972,597	70,958,434
1882	(b)	(b)	76,373,532	101,133,373
1883	(b)	226,792,568	83,777,096	85,948,940
1884	(b)	267,442,864	67,725,676	98,949,620
1885	(b)	178,084,400	91,658,136	180,565,000
Annual average, 1881–1885	c 28,879,231	d 224,106,611	73,721,407	107,511,073
1886	(b)	163,455,273	51,614,696	131,451,320
1887	(b)	278,697,917	77,797,272	135,062,620
1888	(b)	313,935,995	127,445,302	97,320,851
1889	(b)	197,883,931	108,382,491	78,059,947
1890	(b)	213,031,826	99,955,844	58,393,313
Annual average, 1886–1890	.....	233,400,988	93,039,121	100,057,610
1891	(b)	181,450,000	105,993,000	111,119,701
1892	(b)	266,055,000	49,022,000	77,931,854
1893	32,215,000	393,454,000	93,991,000	108,158,435
1894	32,856,000	356,416,000	123,139,000	128,201,150
1895	33,064,541	309,658,000	142,711,000	143,079,706
Annual average, 1891–1895	e 32,711,847	301,406,600	102,971,200	113,698,169

a The figures for the years prior to 1888 represent the exports of flour of all cereals, wheat flour alone probably constituting somewhat more than one-half of the total.
b No statistics available.
c Annual average for the five years 1883–1887.
d Annual average for the triennium 1883–1885.
e Annual average for the triennium 1893–1895.

BRITISH INDIA.

Years Ending March 31—	Area.	Product.	Exports. Grain.	Exports. Flour.
	Acres.	*Bushels.*	*Bushels.*	*Pounds.*
1881	(a)	(a)	13,896,166	.....
1882	(a)	(a)	37,148,543	5,107,317
1883	(a)	(a)	26,495,024	6,816,048
1884	(a)	251,690,880	39,202,636	7,890,854
1885	27,820,223	299,155,584	29,586,445	11,657,126
1886	27,405,742	258,317,622	39,328,658	18,879,201
Annual average, 1882–1886	.....	b 269,721,362	34,352,261	9,950,109
1887	26,735,484	238,585,947	41,558,765	35,744,069
1888	26,854,882	266,882,112	25,271,246	36,082,348
1889	25,911,700	237,522,133	32,874,628	36,290,371
1890	24,773,000	228,592,000	25,764,123	48,572,042
1891	26,424,000	256,704,000	26,731,593	47,035,853
Annual average, 1887–1891	26,139,813	245,657,238	30,440,072	40,744,937
1892	24,452,000	206,640,000	56,566,393	61,028,205
1893	26,429,000	268,539,000	27,950,446	57,940,360
1894	24,370,000	232,944,000	22,692,229	68,446,446
1895	25,994,155	234,428,000	12,857,210	65,916,003
1896	21,777,429	181,997,000	18,672,479	74,113,622
Annual average, 1892–1896	24,604,517	224,909,600	27,747,751	65,488,927

a No statistics available.
b Annual average for the triennium 1884–1886.

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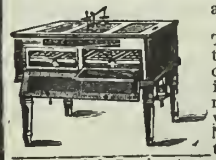

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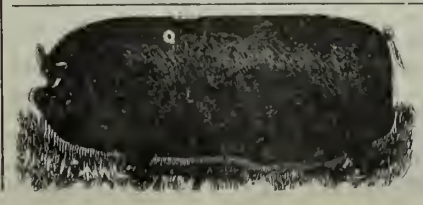

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THE HOME CIRCLE.

The Honey of a Kiss.

When the cares of day are ended,
And my baby's prayers are said,
When he lies in peaceful slumber
In his little trundle-bed;
As I sit beside him, listening
To his breathing, calm and deep,
Comes the question that he asked me
Just before he went to sleep—
With the rosy lips a-tremble
And his laughing eyes a-light—
"Is there honey in the kisses
Of your little boy to-night?"

For I tell my little Ormond
If he has been good all day,
True and tender in his speaking
Kind and thoughtful in his play,
Just as in the fragrant blossom
Of the clover for the bee,
There is honey in the kisses
Of my little boy for me.

But a little noise of nestling
From my baby's trundle-bed,
And a dimpled arm tossed upward
O'er a moist and curly head,
Bring me back from out my musing—
From the world of dreams to this,
And I send him back to slumber
With the honey of a kiss.

—Maud Moore.

Wedding Gifts.

The old married man said to the bridegroom, Pooh! Presents! Don't think you'll get what you want. I'll tell you my experience.

As the time for our marriage drew near I used to call at the house every available evening and whisper confidentially to the curly head which exactly fitted my shoulder that I was the luckiest fellow on earth. On one occasion Agnes sighed and murmured dreamily that that was just what she felt.

That was on the fifth.

On the twelfth I stopped in a minute at noon to see if she loved me as much as at eleven-fifteen the night before. She replied that she did—that love was unalterable—but that she must hurry upstairs now or the dressmaker would get her skirt flute-shaped instead of organ-piped.

On the fourteenth the presents began to arrive—also the relatives. It became an unsettled problem which of the two were more numerous. Aggie had cousins once removed, I had several uncles and aunts. All were well off; in fact, it was a curious coincidence that we were the only poor branches on our respective family trees. I was in an insurance office—fire insurance, not life insurance—and when I had communicated to her the news of my recent promotion she had promptly in the face of her family's unaccountable preference for Henry Walker (who was not as good a fellow as I by any manner of means) that to be Mrs. Joseph Lounsbury and live in a small house on a very small income and bliss was precisely her ideal of existence.

So we were not married as a speculation; nevertheless, since marriage comes so seldom in one's life, we had hopes that our moneyed relatives would do the handsome thing.

They did. First came a complete set of knives, forks and spoons in a polished wood case. They were from the cousin Aggie had been named for.

"Such a sensible present," said her mother; "they will last a lifetime."

"Yes," said I, "it will take us a good while to wear all those out two at a time."

"Don't you suppose we're ever going to entertain any company, Joe?" asked the girl of my affections, tapping me on the cheek with one of the forks.

The same night I had a note from her, saying:

"DEAREST JOE:—You ought to see the lovely after-dinner coffee spoons second Cousin Milly has sent—no two alike. Orange plush case. Isn't it exciting? Don't tell, dear, but I almost wish they'd been something else, for I think some of the girls are going to give me spoons."

The rest of this letter was not interesting to you.

This was the beginning of an avalanche of spoons—charter oak spoons, nutmeg spoons, soldiers' monument spoons, witch spoons, bust spoons, portrait spoons (I called these last our picture gallery, and suggested that they should be framed in ribbons and hung up in the parlor). One of our friends sent a pair of salted almond spoons, hoping that we would exchange them if they were duplicated, but it turned out that those were the only ones we had. The sugar spoons were all marked. There were five of them.

It is a time-honored custom in our office when one of us is married for the rest to "combine" and buy a picture, and you could generally tell what year a man's wedding came off by a glance at his parlor wall. Williams, who was married in 1884, had "Far Away;" Brown's, a few years later, was "The Three Fates." Ours was, of course, the latest thing out. It had a silver frame.

As the days went by, and pieces of silver piled up on us, I was more than once reminded of the couple whose courtship was conducted in Browningese, and who were fitted out by their admiring friends with a Browning tea set, with quotations around the edge. "Oh, the little more, and how much it is!" The Fords had a run on china, but a good deal of it got broken the first year. The Smiths' specialty was etchings; they had enough for every room in the house—only they never had a house—they have boarded ever since they were married. Finally the climax came when my old Uncle John sent us a solid silver tea set. I hadn't expected anything from him, unless, perhaps, a bible or a Webster's unabridged, for he didn't enjoy giving anything away. Aggie was getting too tired to be very enthusiastic, but her mother was delighted, and it was no use thinking that I would just as soon have had the money.

"This makes one hundred and three, dear—nine more than Susie Fish had," said her sister.

"One hundred and two," said Aggie.

"No, dear, one hundred and three; one hundred and two came this morning."

"Oh, I know I never shall get this list right!" exclaimed Aggie, diving for her blank book.

"Look out, or you'll be handing that book to the parson for a prayer-book," said I.

"Wouldn't be a bit surprised," she answered, smiling. Aggie could smile when she was tired.

Well, we were married. A man breathes easier when it's over with.

"But, Aggie," I said, as the carriage door slammed on us, "if it ever happens to us again, let's leave out the heathen superstitions."

"I know it," said Aggie. "I begged them not, but they would smuggle some in. See any in my hair?"

"Some in your hat brim."

I brushed her off, and she seized the newspaper I had carefully brought along to look like an old married man, and conjured with it a minute, holding it out by an improvised handle.

"Here," she said, "the very children in kindergarden know how to make paper dustpans; now brush the carriage seat."

When we got out I gave the hackman a dustpanful of rice with a bill on top.

"There, burn it," said I.

"Did you see him chortle in his joy?" said Aggie, giggling. "Joe, do you feel like a married couple?"

"Lots," said I.

Our ten days in Washington had only one bogie—the blank book. Aggie said she must finish her notes. All I could do was to sit by and fret, and put on the stamps; and she told me I hindered her more than I helped, and she was awfully glad to have me around; it made her feel better.

We began housekeeping in a cheerful way in a little house on a new street. It was something like to come home to one's own dinner table. We had so much silver that it looked funny with our plain china; nobody had given us a lot of ice-cream sets and things. I tell you, marriage is a lottery when it comes to wedding presents. I liked seeing Aggie's face in the sugar bowl, though. Every night the little maid (imported, to live up to the spoons,) brought them and all the rest upstairs on a tray, and we packed them away in the chest we had made—and a pretty penny it cost, with its combination lock—which went into the end of the closet where nobody could get at it. One night we came home at twelve from a reception, and as we stole upstairs, not to wake the sleeping handmaiden, Aggie so sleepy herself that she tripped on her wedding gown and I had to hold her, we came upon the whole array on the floor outside our door.

"Isn't it imposing? So safe!" said I.

"I shan't care anything about going out evenings any more if I've got to put that silver away after I get home," said Aggie, desperately.

"Let it stay there."

"Oh, I can't. Mamma thinks we're awfully careless. We don't appreciate things enough. She said if any one had given her such elegant things when she was married she wouldn't have dared to close her eyes."

"Take more than that to keep my eyes open."

But I helped Agnes shove the tray under a chair and drape the train of her wedding dress over it.

"What on earth are you doing, Aggie?" I asked, on coming in for dinner one day. All I could see was one foot and a skirt ruffle in the closet.

Aggie scrambled up enough to catch me round my knee.

"Oh, Joe, I'm so glad you've come!"

"What is it? You're ready to cry."

"That's what I like about you; you don't have to be explained to. Henry Walker wouldn't have known I felt like crying if I'd screamed it at him!"

That made me feel pretty good (though dinner wasn't ready).

"But what—"

"It's the silver! I came up to change the forks and spoons so they should get worn alike, and I've shut the paper with the combination in the chest, and I can't remember what it was!"

I got down beside her. It was hotter than Mexico in that closet. I turned and tried the lock.

"Do keep your dresses out of the way. They tickle the back of my neck." No good. "Well, I guess we'll use the old forks to-day," said I; "I don't believe they'll fade away yet awhile."

"Oh, I am so sorry; but they're every one shut up in that chest."

So we laughed. What else was there to do? It was funny when Deming came home with me to tea—we'd asked him some days before. It wouldn't have been funny with some girls. The table looked principally white china, and the kitchen knives and forks didn't go round. Ever cut omelet with a pewter spoon? It is great.

It wasn't quite so funny when three hot days had gone by and we had nearly smothered sojourning in the closet, and no news of the combination.

"Don't tell mamma," pleaded my wife.

I began to think I should have to call in a locksmith, when one evening Aggie startled me by jumping out of bed, crying: "I've got it! I've got it!"

"Got what—a nightmare?"

"I've got the combination! I've been working on it all the time, and it just came to me in my sleep. Get right up, Joe, and hold the light, and mind you don't set anything on fire."

In another two minutes the front of the chest fell down, and behold our household gods!

"If anybody wants to steal them between now and daylight, they can, that's all," said Aggie, "but I'm not going to shut that lock again to-night for anybody!"

In the fall there was a burglar scare about town, and Agnes' mother came over and gave her a lecture upon locking the windows. She said we really ought to have a burglar alarm. To please her, I had one put in. Election night I went down town, telling Aggie not to sit up for me, for I should wait for the returns. It was 1 o'clock when I opened the front door very softly, not to disturb Agnes. Br-r-r-br-r-keplunk! I had forgotten the alarm.

Before I had time to say a word or even turn down my coat collar, my wife appeared at the head of the stairs. She pointed a pistol at me. Her hair hung loose, and she was in her—well, never mind; but she looked distractingly pretty.

"If you come one step farther I fire!" she cried.

"It's Joe, Agnes," said I, meekly.

"I don't believe it! Take off your hat!"

I took it off and made her a low bow.

"Don't shoot your husband; he's doing the best he can."

Agnes laughed hysterically.

"Oh, Joe, I was so frightened."

I rushed upstairs and caught her. I took away the pistol and wrapped her up in her dressing-gown.

"Do you think you ought to appear before burglars in this costume?" I inquired.

"I never thought of that," she replied, blushing.

"And to think you should point a pistol at your own husband."

"It wasn't loaded, Joe."

"Agnes Lounsbury," said I, "do you mean to say you were so rash as to aim at me with a pistol that wasn't loaded?"

"But I shouldn't have fired it, anyway; it wasn't cocked."

"Well, this ends the watchman burglar alarm business," said I. "We've had about as much of it as we want. To-morrow we'll decide what silver we want to use every day, and the rest shall go down to the bank."

We are able to breathe now. The silver stands on the sideboard, and as yet nobody has carried it off; if they do, Agnes' mother will say she expected it, for we aren't the careful people they used to be in her generation. Once in a while Aggie quarrels with me because some dish or other that would make a show for company is at the bank, and I don't see my way clear to bring it home under my arm.

"You can have them all home and trust to luck if you'd rather," I say.

"I'd rather they were at the bank, because then I should have them, you know."

"Don't see it," said I, "but it's just as you say."

When our anniversary came around we had a present and a note from one of Agnes' elderly friends. The note ran this way:

"MY DEAR MRS. LOUNSBURY:—We send you our best congratulations on your anniversary. My husband will have his little joke, you know, and as some one told him that the Lounsburys had so much silver given them on their wedding day that it was a positive embarrassment to them, he says you ought to be ashamed of being such plutocrats at your age, while the older generation has not even accumulated souvenir spoons, and sends you this little gift to remind you of the fact."

"O Joe! it's silver!" for I had punched a hole in the paper. "No, it isn't; no, it isn't; it's plated. We can keep it. It's a pudding dish, or for oysters, you know. How kind! And plated, too. It didn't cost much, Joe, did it?"

"A few dollars, I should think."

"How good! Perhaps even less, Joe?"

"Isn't it delightful? We'll have some oysters in it to-morrow night, and ask them over to tea. I should feel dreadfully to have that taken," I heard her murmur that evening.

"What for?"

"Because it's such a comfort to have one thing that you don't care whether its stolen or not."

"You are getting sleepy, Aggie. But I know one thing that 'goes on, goes on forever.'"

"Why?"

"Our storage rent. I reckon in a few years we'll have paid for the whole outfit, and then we'll fetch it home and keep open house with the burglars with a clean conscience."

"Don't be ridiculous, Joe," said my wife.

A CERTAIN minister while preaching said that every blade of grass was a sermon. The next day he was amusing himself by mowing his lawn, when a parishioner said: "That's right doctor; cut your sermons short."

Gems of Thought.

Gossip in the language of pigmies. —Anon.

The man who is afraid to be unpopular causes no devils to tremble.—Anon.

This sorrow, which has cut down to the root, has come, not as a spoiling of your life but as a preparation for it.—George Eliot.

Every man has some peculiar train of thought which he falls back upon when he is alone. This, to a great degree, moulds the man. — Dugald Stewart.

No quality will ever get a man more friends than a sincere admiration of the qualities of others. It indicates generosity of nature, frankness, cordiality and cheerful recognition of merits.—Dr. Johnson.

I cannot praise a fugitive and colistered virtue, unexercised and unbreathed, that never sallies out and sees her adversary, but slinks out of the race, when that immortal garland is to be run for, not without dust and heat.—John Milton.

Finish every day and be done with it. You have done what you could. Some blunders and absurdities, no doubt, crept in; forget them as soon as you can. To-morrow is a new day, begin it well and serenely, and with too high a spirit to be cumbered with your old nonsense. This day is all that is good and fair. It is too dear, with its hopes and invitations, to waste a moment on the yesterdays.—Emerson.

The difficulties of democracy are the opportunities of education. If our education be sound, if it lay due emphasis on individual responsibility for social and political progress, if it counteract the anarchistic tendencies that grow out of selfishness and greed, if it promote a patriotism that reaches further than militant jingoism and gunboats, then we may cease to have any doubts as to the perpetuity and integrity of our institutions.—Prof. Nicholas Murray Butler.

Popular Science.

Generally speaking, we say that the curvature of the earth amounts to about seven inches to the statute mile, it is exactly 6.99 inches or 7.962 inches for a geographical mile.

Scientists say that no negro has ever tamed an elephant or any wild animal, though negroes frequently perform with wild animals after they have been cowed into subjection by white men.

Lightning is zigzag because, as it condenses the air in the immediate advance of its path it files from side to side in order to pass where there is the least resistance to its progress.

Snow appears white because it is an aggregation of an infinite number of minute crystals, each reflecting all the colors of the rainbow; these colors uniting before they reach the eye, cause it to appear white to every normal eye.

A sun dial made for London would be useless for either Paris or Edinburgh. The altitude of the pole star varies with the latitude, and hence is greater at Edinburgh, and less at Paris than at the polar star, the angle it makes with the dialplate must vary with the latitude.

Dr. Burton Ward, according to the *Medical Age*, declares that there "is one infallible symptom indicating whether one is sane or not. Let a person speak ever so rationally or act ever so sedately, if his or her thumbs remain inactive there is no doubt of insanity. Lunatics seldom make use of their thumbs when writing, drawing or saluting."

Curious Facts.

A flowering plant is said to abstract from the soil two hundred times its own weight in water during its life.

Carrier pigeons have been used for a great many purposes, one of the latest being on board fishing boats, whence they are let loose in the morning when the nets or lines are hauled, with a message attached to their wings, informing the curer or agent on shore of the amount of the catch and when the boat is likely to arrive.

The world's population is said to average 109 women to every 100 men, while eight-ninths of the sudden deaths are of males.

In Asia it is estimated there are 825,954,000 inhabitants; in Europe, 557,379,000; in Africa, 163,953,000; in America, 121,713,000, and in Australia 3,230,000.

A curious use for paper is announced in the form of a bathing towel, which consists of a full suit of blotting paper, into which the bather steps from the water. It dries the entire body in a second.

Women pilots are employed by the Danish and Scandinavian Governments. Many Scandinavian captains say they prefer them to men, because they have more patience. Norway and Sweden also employ women in the mercantile marine; they do the same work as the men before the mast, and take their turn at night lookout duty.

Work was begun recently on an underground electric road in London. It will be fifty feet under the city and extend from the heart of the city to one of the suburbs, ten miles. At some places it will be one hundred feet below the surface. The elevators to hoist the passengers will lift 250 people at one time. There will be forty trains per day.

A submarine wrecking vessel is being built at the Malster shipyard in Baltimore. The inventor is S. Lake of Baltimore, and the boat is intended to be used in recovering goods from wrecked steamers, at any depth not exceeding 150 feet below the water surface. The trial vessel now being built will be cigar-shaped, built of steel, and will be 40 feet long and 10 feet to 15 feet in diameter. Steam will be used for propulsion on the surface, and storage batteries for underwater work. The estimated submerged speed is eight miles per hour, and the boat will be fitted with bottom man-holes, derricks, powerful electric lights, etc. The wreckage would be loaded into sunken trailing boats, which Mr. Lake proposes shall be made to rise to the surface by forcing out the water by compressed air.

DOMESTIC ECONOMY.

Hints to Housekeepers.

Dissolve a little salt in the alcohol that is to be used for sponging clothing, particularly where there are greasy spots.

A high stool or chair is of great convenience in a kitchen, as it enables the housewife to sit down when doing work that must be accomplished on a table.

Andirons, lamps, candle lanterns or anything made of the wrought iron now so much used can be freed from dirt by wiping the iron with a cotton cloth slightly dampened with kerosene oil.

Tomatoes are almost as useful when green as when ripe. Green tomatoes are an excellent vegetable fried. Cut them into slices half an inch thick, sprinkle them with salt and pepper, dip in egg and roll in crumbs; then fry each side until brown.

Fancy pipes with large bowls can be made very ornamental by filling the bowls with good earth and setting in them plants like the little Wandering Jew, or some easily growing, graceful vines. Hang the pipes by cords or ribbons from brackets, or on window frames.

A thermometer intended to be fastened upon the oven door is one of the most useful of articles to the cook. With this the heat of the oven can be determined without opening the door, and the baking of cakes, puddings and souffles can be accomplished much more successfully.

When pies are to be kept over until the second day after baking, it is a wise plan to brush the under crust with a beaten egg, then to put the tin or dish on the ice half an hour. After that put in the filling of the pie and bake quickly. This will keep the crust from getting soaked.

In making a salad of fish, if you add a little cucumber pickle, chopped very fine, to the dish before the dressing is poured over, you will greatly improve it.

A piece of carbonate of ammonia the size of a small pea put into the water in which vegetables are cooked preserves the color. The ammonia evaporates in the boiling. It is generally used by French chefs. It will also prevent the odor of boiling cabbage.

A simple disinfectant to use in a sick room is made by putting some ground coffee in a saucer and in the center a small piece of camphor gum. Light the gum with a match. As the gum burns, allow the coffee to burn with it. The perfume is refreshing and healthful, as well as inexpensive.

It will be of interest to housewives to know that celebrated foreign physicians are recommending the marrow bone for a strengthening diet and tonic. The marrow bone is served upon a piece of hot, dry toast. When it is to be eaten the marrow is taken out and spread upon the toast. It is also served upon small portions of fillet of beef, and in this manner is considered a desirable course for luncheon parties.

Save all old silk handkerchiefs. Various are the uses they can be put to. They make better dusters for polished wood than anything one can buy. An old white silk handkerchief folded smoothly and laid over a sore caused by lying in bed has been known to give relief and heal it when nothing else would. An English lady's maid always used a soft silk handkerchief for stroking her mistress's hair, using it night and morning in place of a brush, and with excellent results.

To color woolen goods black, use one ounce of extract of logwood and half an ounce of blue vitriol for each pound of cloth. Put the vitriol in water enough to cover the cloth, and when they are thoroughly mixed put in the cloth and let it scald twenty minutes. Then take the cloth out and throw it into clear water. Put the logwood into a vessel with sufficient water for the goods, press the water from the cloth and put it into the logwood water and scald it thirty minutes. Then take out the cloth and air well. Meanwhile put the vitriol water into the vessel with the logwood, and again put in the cloth and scald it fifteen minutes longer.

Table mats, on which to place hot dishes, are no longer used, as the heavy felt undercloth is intended to be sufficient protection for the table; but many housewives have found the top of their handsomely polished tables defaced by the marks made by the hot dishes. If a sheet of asbestos paper is put under the felt cloth, the table will not be injured in the least from this cause. At teas or luncheons, when the polished table is used with doylies instead of a cloth, asbestos mats may be covered with prettily embroidered doylies for the hot dishes. One of these mats covered with a doyly, which should be larger than the mat, is much prettier to use than any teapot stand that can be purchased.

Domestic Hints.

Honey Cookies.—One quart of honey mixed with half a pound of white sugar, half a pound of butter and the juice of two lemons. Stir this mixture very hard, then mix in gradually flour enough to make a stiff paste. Cut into round cakes and bake in buttered pans.

Bread Soup. — Pound some dry crusts of bread, put them into boiling stock, season with salt and pepper, add a small pinch of grated nutmeg; let it boil up once or twice, and just before serving beat in three eggs previously well whisked. Serve at once with or without grated cheese.

Rice Gems.—Separate the whites and yolks of three eggs into two bowls. Add one pint of milk to the yolks and beat lightly. To this add one level teaspoonful of salt, three cupfuls of sifted flour, one tablespoonful of melted butter, and mix thoroughly, after which add one scant cupful of rice. To the beaten whites of the eggs add two rounding teaspoonfuls of baking powder and add to the mixture. Bake from twenty-five to thirty minutes in a quick oven.

Lemon Catsup.—Grate the rind of one dozen large lemons into a small porcelain kettle, and add the juice of the lemons, two tablespoonfuls each of salt, grated horseradish and sugar, four tablespoonfuls of white mustard seed, one tablespoonful each of white pepper and tumeric, a teaspoonful each of cloves and mace, and a suspicion of cayenne. Cover the kettle and let it stand in a cool place over night. In the morning cook over a slow fire forty-five minutes, then again cover and put it where you will be reminded to stir it each day for ten days. Then strain through a fine sieve and put into small bottles.

Waffles.—Mix at night one pint of milk, one-fourth of a yeast cake, one pint of flour and one-half teaspoonful of salt. In the morning add one tablespoonful of melted butter and two eggs. Bake quickly in a hot waffle iron. Serve with maple syrup. If a little of the batter is left it can be enlarged, following the proportions of the rule, and cooked the next morning.

Lyonnaise Potatoes.—Cut six medium-sized peeled potatoes into thin slices and lay in cold water; peel and cut two good-sized white onions into thin slices; fifteen minutes before serving drain and dry the potatoes on a towel; place a large frying-pan with one tablespoonful of beef fat or lard over the fire; as soon as hot put in the potatoes, cook five minutes; add the onions, season with a half even teaspoonful of salt and a half even teaspoonful of pepper, stirring occasionally; fry slowly until done, then pour off the fat, turn the potatoes on a hot dish in the shape of an omelet.

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Graceful Skirt and Favorite Waists.

SIMPLE AND BECOMING.
1014—Madeline Waist.
Sizes for 14 and 16 Years.

Dark blue serge of the broad wale, now so popular, is the fabric of this youthful and attractive gown, which is so simple that it can be adapted to any use, according to the materials employed. The waist fastens in the back, and has a slightly drooping blouse front. The only trimming is a generous use of black satin or velvet ribbon, which forms the stock collar and girdle, gives a yoke effect across the front and back and bands the sleeves. All fancy cheviots, tweeds and novelty goods of silk and wool are suitable fabrics to make by this model, and for home evening gowns it would be charming made up in light cashmere, with bright ribbons.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

893—Doris Skirt.
Sizes for 12, 14 and 16 Years.

An extremely graceful design, having six gored breadths, flaring widely at the foot, and fitting easily around the waist, except in the back, where the fullness may be gathered. It may be lined throughout, but should have no interlining or facing. Any of the popular silk, woolen or cotton fabrics may be chosen for this model, and it may be worn with any style of coat, basque or waist.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

THE FAVORITE WAIST.
1011—Yorke Waist.
Sizes for 34, 36, 38 and 40 Inches Bust Measure.

Changeable silk waists are a convenient substitute for the shirt waists worn during the summer weather. Combinations of blue with black, red or green are much worn with serge skirts, and all the shades of heliotrope with black or green are great favorites, while almost every possible combination appears in an occasional waist. Our model is the favorite one, with tucks in the top of the sleeves, which form a straight line with the tucked yoke in front and the tucked shoulders of the back. The plait in front can be of white linen or lawn with lace or lawn frills, or it may be of silk with or without frills. It is well to finish the neck with a band so as to vary the neck trimmings. A fitted lining holds the fullness of the waist in place and the fronts droop with blouse effect. Any of the popular silk or woolen fabrics may be selected for this model.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

Fashion Notes.

Skirts, in general, have been pruned down to four and a half and five yards of fullness at the bottom, fit closely over the hips and are decidedly graceful in shape. The seven-gored skirt seems to be the favorite, but an occasional one is cut in bell shape, with one seam and very little fullness at the back. Double and triple skirts which have the effect of three half circular flounces are promised in the near future, and trimmed skirts are very plenty among the latest gowns.

Some of the important gowns have panels of fancy silk or velvet down either side of the front, while others are trimmed with a narrow band of fur, rows of round braid, or an inch wide band of velvet set on the edge and headed by a fancy galon. Folds of black satin set far apart are another skirt trimming; such bands of cloth stiched on in rows is the decoration on some of the tailor gowns. Bands of flat braid or velvet are also used, as well as rows and rows of stitching.

A handsome late autumn costume is made of very heavy Eudora. The skirt is plain at the front and full box-plaited at the back. The waist has short basque skirts fitted smoothly over the hips, and is close fitting from collar to waist line. The sides and back of the front are of almost solid braiding. Wide lapels, a vest front and a plain edge around the lower portion of the basque skirts are outlined with a very narrow line of fur. There are epaulets and cuffs of braiding over plain sleeves. At the foot of the skirt there is an 8-inch band of braiding, with a fur edging above it. This is an extremely stylish costume, and one that furnishes a type for the coming season.

The new veil is fearfully and wonderfully made. It is from one and an eighth to one and a quarter yards long, and the lower edge is trimmed with a very full frilling of the material of which the veil is made. This is preferably a mousseline de soie with tiny spots of polka spots of various sorts, the small ones being most liked, although some are shown with spots nearly as large as an old-fashioned silver 5-cent piece. The ends of the veil are drawn up to the back of the hat, and either pinned in folds or the ends are given one tie and fastened with a fancy scarfpin.

Pockets hanging from the belt are going to be fashionable again, both belt and pocket to be heavily studded with the imitation gems now much used.

From Cuba to Kingsburg.

RAISIN CULTURE IN FRESNO.

What Brought Success Out of Failure to Hon. Z. T. Maxwell.

From the Republican, Fresno, Cal.

The Hon. Z. T. Maxwell, in 1887, having just finished a term in the Missouri legislature, was compelled by ill health to seek change of climate, and after traveling for some months on the Pacific slope settled in Kingsburg, Fresno County, California, and engaged in raisin culture.

The change from Cuba, Mo., Mr. Maxwell's old home, to the balmy air of Kingsburg for a time seemed to benefit the invalid, and, for a while, in addition to his labors on the raisin farm, he began to take a prominent part in the county politics, and held several offices of trust in his new state. But ill health was the drawback which prevented him from arriving at the highest political honors, and his active mind chafed under the restraint of an impaired constitution, so that instead of improving he became worse. These facts concerning Mr. Maxwell's health were so well known among the people of Fresno County that when he lately reappeared on the busy scenes, in apparent health, he was warmly congratulated by his numerous acquaintances, and among others the writer of this article.

In response to a request to give the reporter particulars as to the course of his illness, symptoms, cure, and indeed all there was in it, he said:

"You have asked me for more than I could describe. Sometimes I have looked over an alphabetical index of diseases, and fancied I had them all, but general debility, weakness, insomnia, indigestion, constipation, partial atrophy of muscles, headaches, pain in the back and limbs, and general wretchedness was my lot.

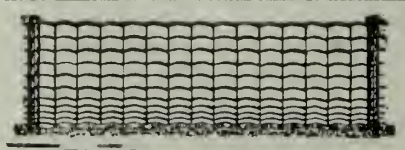
"My horizon was contracting, and I supposed that the circle of my vision would never again have anything but my bed for a centre, for on top of my previous ill health in 1895 I caught la grippe, which brought me so low that I was very nigh the grim portal.

"New Year's day I was despondent and unhappy, not knowing there was such good fortune in store for me, for I had hardly ambition to read the newspaper that was brought me, and threw it on the bed in disgust. As I did so my eye caught the announcement of Dr. Williams' Pink Pills for Pale People, and half in anger and half in contempt I read what it said and again threw the paper down. But I could not get this announcement of Pink Pills out of my head, and at last I determined to try them, and did so. I began to use the pills, following directions carefully, and by the time I had taken the first box my appetite had returned, and I was so invigorated that it almost seemed as if I were renewing my youth. I kept on taking the Pink Pills until I was thoroughly recovered, and now can do more work than for twenty years before.

"I will say that not only have they saved me much expense in doctors' bills, but my life, and I am only too glad to publish this testimonial to the virtue of Pink Pills.

(Signed) "Z. T. MAXWELL."

Dr. Williams' Pink Pills for Pale People contain, in a condensed form, all the elements necessary to give new life and richness to the blood and restore shattered nerves. They are an unfailing specific for such diseases, as locomotor ataxia, partial paralysis, St. Vitus' dance, sciatica, neuralgia, rheumatism, nervous headache, the after effect of la grippe, palpitation of the heart, pale and sallow complexions, all forms of weakness either in male or female. Pink Pills are sold by all dealers, or will be sent postpaid on receipt of price, 50 cents a box, or six boxes for $2.50 (they are never sold in bulk or by the 100), by addressing Dr. Williams' Medicine Company, Schenectady, N. Y.



The Latest Returns!

Though incomplete, show that every State has surely gone for the **PAGE**. Where it was well known there was practically no opposition, and as it is a "stayer," this settles the question for several terms.

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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Nov. 4, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	110,878	2,326,120	1,547,287
Wheat, ctls.	312,663	5,188,976	3,471,818
Barley, ctls	214,328	2,931,478	1,587,938
Oats, ctls	9,600	221,440	274,997
Corn, ctls	11,965	55,215	42,181
Rye, ctls	40,207	65,328	14,007
Beans, sks	44,851	291,755	218,918
Potatoes, sks	25,498	382,641	381,372
Onions, sks	2,967	62,069	51,200
Hay, tons	2,266	67,124	65,622
Wool, bales	1,981	25,580	33,850
Hops, bales	248	4,451	6,411

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	80,956	1,867,200	1,057,327
Wheat, ctls	291,549	4,913,719	3,456,476
Barley, ctls	229,661	2,214,512	1,105,413
Oats, ctls	206	9,998	9,092
Corn, ctls	82	4,421	7,747
Beans, sks	2,800	150,466	90,889
Hay, bales	760	16,366	16,965
Wool, lbs	....	3,488,112	6,219,200
Hops, lbs	466	363,113	481,413
Honey, cases	6	1,210	4,812
Potatoes, pkgs	1,728	32,630	53,420

Grain Freights and Charters.

Little has been done in the grain charter market since last review. Exporters are as a rule amply supplied for the present with ships chartered some weeks ago and previous to their arrival. Five iron ships were reported for wheat for Australian ports at rates ranging from £1 2s 6d to £1 6s 3d, but these had been mostly chartered a week or more ago. Ships coming in under engagement for wheat loading to Cork for orders, usual option, have been taken mostly within range of £1 7s 6d to £1 8s 9d. The latter is an extreme figure at this date, hardly justified as a quotation on disengaged spot tonnage.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive.
1896	78,534	42,544	249,666
1895	60,615	4,027	288,404

Flour.

While this market is showing less activity than a few weeks ago, there is a fair business doing, both on local account and for shipment. No large quantities are in the hands of local dealers at the moment. Market is showing a firmer tone than existed immediately prior to date of last report, due to the improved feeling which has since been developed in the wheat market.

Superfine, lower grades	$2 65@2 90
Superfine, good to choice	3 00@3 25
Country grades, extras	3 75@4 00
Choice and extra choice	4 00@4 25
Fancy brands, jobbing	4 25@4 50
Oregon, Bakers' extra	3 75@4 00
Walla Walla, Bakers' extra	3 75@4 00

Wheat.

STOCKS OF GRAIN.

Stocks of grain in Call Board warehouses on October 1st and November 1st:

Tons—	Oct. 1st.	Nov. 1st.
Wheat	138,612	*146,588
Barley	9,514	8,135
Oats	2,293	3,117
Corn	1,241	561

*Including 69,713 tons at Port Costa, and 71,657 tons at Stockton.

Stocks of wheat in Call Board warehouses on 1st inst. show an increase of 7976 tons for month of Oct. A year ago there were 249,644 tons wheat in Call Board warehouses.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	5s 6d@5s 7d.	7s 3d@7s 4d.
Freight rates,	28¾@30s.	26¼@27½s.
Local market,	$0.96¼@98¾	$1.37½@1.42½

The prices above are for spot lots of standard No. 1 California in Liverpool, and for good to choice shipping in this city.

The market in this center, as well as in the East and Europe, has recovered materially during the week under review. From Thursday of last week to Monday of the present week, although there were some setbacks in the meantime, Dec. wheat recorded an advance of about 6c, while on May option there was an advance of about 12c. The greater appreciation in the latter option is accounted for by the fact that speculative operators who are not prepared to, or do not care to handle actual wheat, are now dropping Dec. option, owing to the month being near at hand, and are taking May instead. Speculators nearly always prefer to operate at long range. The selling of December and the more extensive purchasing of May wheat naturally tended to depress values for the former and advanced them for the latter option. The recent efforts of the chronic bears to weaken the market have not been attended with other than very temporary success. Wheat has proven itself to be in too strong position to be manipulated in the bear interest, as has been the case for several seasons prior to the present one. It is estimated that nearly, if not quite, two-thirds of the available surplus on this coast has already been marketed, and there is now a demand from Australia and South Africa, in addition to a more than ordinarily good inquiry on European account, as compared with the movement in latter direction for several years past. Tuesday being election day and a legal holiday, there was a general suspension of business in grain circles. Wednesday the local market showed more firmness than at any previous date since last review. Eastern and foreign markets were somewhat unsettled, but in the main on the up-grade.

California Milling	$1 40 @1 47½
Cal. No. 1 shipping, alongside	1 37½@1 42½
Oregon Valley	1 35 @1 42½
Walla Walla Blue Stem	1 27½@1 45
Walla Walla Club	1 25 @1 37½

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, $1.35½@1.45½.

May, 1897, delivery, $1.39⅝@1.55.

Wednesday, at regular noon session of Call Board, December wheat sold at $1.43½@1.45½; May, $1.52¼@1.55.

Barley.

During the week under review three ships have cleared for Europe with barley constituting the whole or main part of the cargo. Shippers are not buying heavily of this cereal now, however, and are not likely to take large quantities during the balance of the season. Really desirable qualities are not offering freely or in wholesale quantity at this date, besides, it is getting rather late in the season for shipments of this grain to be made by sailing vessel to Europe. Nearly 125,000 tons have been already shipped this season to date, being more than double the quantity for correponding period in previous season. Prices for feed and brewing descriptions have remained close to the figures last quoted. Chevalier is now offering in such limited quantity that values for the same are little more than nominal.

Feed, No. 1 to choice	80 @83¾
Feed, fair to good	77½@80
Brewing, No. 1 to choice new	85 @90
Chevalier, No. 1 to choice	1 05@1 15
Chevalier, No. 2	80 @90

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, 81½@82¼c; May, 1897, delivery, 90½@91⅝c.

Wednesday at regular noon session of the Call Board, there were no sales of barley.

Oats.

Arrivals have been tolerably large the current week, particularly from Washington, but a large proportion of the receipts represented previous purchases, and in consequence did not come upon the market. Values were fairly well sustained, and would have ruled still firmer, but for the fact that one or two prominent operators tried to depress the local market so as to enable them to operate to better advantage at producing points.

White Oats, fancy feed	1 20 @1 25
White, good to choice	1 15 @1 20
White, poor to fair	1 00 @1 05
Gray, common to choice	1 05 @1 15
Milling	1 15 @1 20
Surprise, good to choice	1 15 @1 25
Black Russian	1 15 @1 25
Red	95 @1 05

Corn.

Business in this cereal is still of a light order, and the market has not displayed any noteworthy strength. There is not much corn of any sort arriving from Pacific Coast points, but there is more than enough for current requirements. There is considerable Eastern corn now offering here to arrive and at comparatively low figures.

Large White, good to choice	85 @ 90
Large Yellow	87½@ 92½
Small Yellow	1 00 @1 05

Rye.

Market is showing less activity than during latter part of October, but supplies are of very moderate proportions. The last quoted advance is being maintained.

Good to choice, new	1 05 @1 10

Buckwheat.

There is a fair inquiry and not much arriving. Market is tolerably firm at the figures quoted.

Good to choice	1 10 @1 20
Silverskin	1 15 @1 25

Beans.

The following clipping regarding the Eastern bean market is from a recognized New York authority, prices mentioned therein being per 60-lb bushel:

Reported arrivals for the week include a great deal of California stock—45,120 bags of small white, Lady Washington and Lima. The latter have had moderate sale and some receivers tried to force the price up to $1.55, reporting a little business at that; but sellers have generally been willing to accept $1.50, and there is plenty of stock now available at that. Some lots of best Lady Washington have gone to jobbing trade at $1.20. Reports from the Pacific Coast indicate a very large movement in these beans for export to Europe, which has caused a sharp advance in prices and a strong feeling at the close. Our market for State beans has continued in a very satisfactory condition. Between the home and export trade current arrivals have been taken care of nicely, and stocks in store have been reduced considerably. At the close choice old Marrow are firm at $1.50, with slight dispositiou to ask more. Best new are steady at $1.60. The few lots of new Medium received have sold at $1.30@1 35, and choice old at $1.25@1.30, but the fact of the price being above Pea is giving the latter more of the trade. Choice Pea continue to sell quite generally at $1.25. White Kidney have had a few sales for export at $1.60, but most lots have gone for less; not many here and demand light. Red Kidney have had quite free sales and are 5@10c higher; much of the week's business in choice old has been at $1.35, but some lots have brought $1.40 toward the close. Not many new here as yet and the irregular quality of receipts has made a wide range in price; best lots now selling at $1.50@1.60. Yellow Eye steady. Green peas slow and slightly weaker, but Scotch held with a little more confidence.

Much the same quiet condition as last noted has since continued to prevail in the bean market. The sharp advance in values during the past month have caused buyers, speculative and otherwise, to proceed more cautiously. Then, again, the recent heavy shipments to the East and to Europe will satisfy, for a time at least, the needs of those sections. Values are in the main steady, and the absence of any noteworthy selling pressure is a prominent feature. Owing to some White beans of rather poor quality now arriving, the tendency on these is to a wider range of values than has been lately experienced.

Pea, fair to good, 100 lbs	$1 40 @1 60
Small White, good to choice	1 30 @1 50
Lady Washington	1 25 @1 40
Butter, small	1 25 @1 40
Butter, large	1 50 @1 60
Pinks	1 10 @1 25
Bayos, good to choice	1 30 @1 45
Reds	1 15 @1 30
Red Kidneys	2 00 @2 25
Limas, good to choice	1 90 @2 10
Black-eye Beans	1 15 @1 30
Horse Beans	75 @ 90
Garbanzos, large	2 25 @2 50
Garbanzos, small	1 40 @1 60

Dried Peas.

Millers in this center are now getting most of their Dried Peas from the East, and there is, consequently, not much demand for the home product. Most of the latter lately offered have been too damp to be desirable.

Green Peas, California	$1 15 @1 30
Niles Peas	1 15 @1 30

Wool.

Wool town has presented an exceedingly quiet appearance since last review, much like a continuous holiday. Most of the parties interested in the wool trade have been giving politics their undivided attention for some days past. There is nothing to warrant changing quotations. To purchase freely, full current figures or more would have to be paid, while to sell freely, current rates might have to be shaded in favor of the buyer. The returns from Tuesday's election cause wool men to feel exceedingly hopeful regarding the future.

SPRING.

Humboldt and Mendocino	— @—
Northern California free	— @—
Northern defective	— @—
San Joaquin Foothill, good to choice	— @—
San Joaquin, 12 months	— @—
San Joaquin and Southern, 6 months	— @—
Nevada, as to condition	7 @ 9
Oregon Valley, select	9½@11
Oregon Valley, low grade	8 @ 9½

FALL.

Northern California free	5½@ 7
Northern defective	4½@ 6
Middle Counties free	6 @ 6½
Middle counties defective	5½@ 6
San Joaquin and Southern	3½@ 5

Hops.

The Eastern hop market is thus outlined by a New York circular:

The local market is still a very narrow one Dealers are receiving a fair quantity of stock and are making moderate sales to brewers, and there is some call from shippers, but between dealers there are very few transactions. Most of the large buyers have gone to the interior for their supplies, which keeps the trading here quite small. The high prices paid in the country cause a firm holding here of the best grades of both State and Pacific coast, and 11c is a quotable price for strictly choice. That figure has been paid for export, and could be realized for further lots. There seem to be plenty of ordinary to good hops the world over, but the proportion of really fine qualities promises to be small; this is largely the reason for the present firmness. The strength shown in choice has

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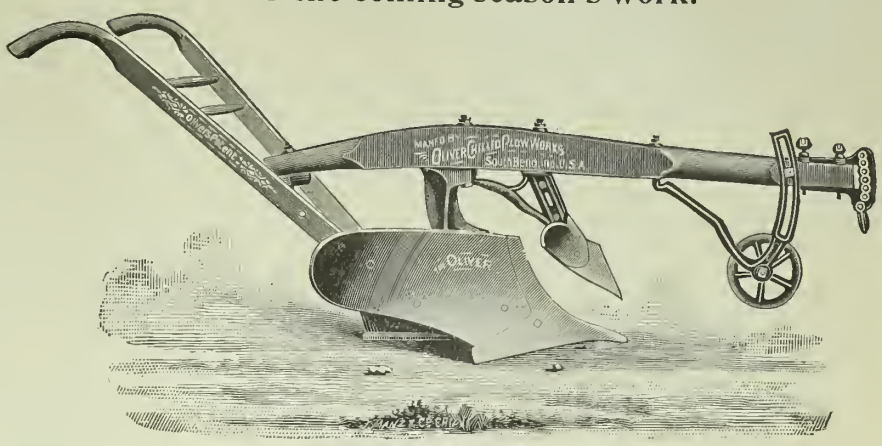

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tended to help the position of other qualities a little, but the movement is too light to permit of much advance in values. Fairly good business has been reported in this State during the week; in some sections fairish lots have been picked up at 7@7½c, but the bulk of sales were at 7@9½c, few of the finest growths selling at 10@10½c, and reports of higher bids. There has been some buying by Western brewers. On the Pacific coast the markets are strong at 8@8½c, with most of the crop already out of growers' hands. London cable advices are firmer, with increasing demand for fine stock. German markets have declined several marks, which is supposed to be due to the low quality of the hops, and the effort to interest buyers in them.

The market in this center gives no evidence of any special activity. Demand which exists is almost wholly for a faultless hop, which is wanted mainly for shipment to Europe. Strictly select are more readily placed at extreme quotations than are fair qualities at the lowest figure below named. Prospects for a speedy clean-up of the lower grades are not regarded as very encouraging.

Fair to choice, 1896 crop	7¼@10

Hay and Straw.

There has been no improvement of consequence on the general condition of this market since last report. Offerings of hay have been as a rule larger than was warranted by the demand, and sales at full current figures were the exception, particularly if other than gilt-edge. Wheat or mixed wheat and oat straw were in ample supply and market lacked firmness.

Wheat	8 00@11 00
Wheat and Oat	6 50@10 00
Oat	6 00@ 8 50
Barley	6 00@ 8 00
Clover	5 00@ 7 50
Stock Hay	4 50@ 5 50
Alfalfa, first cutting	4 50@ 5 50
Alfalfa, second cutting	6 00@ 7 00
Compressed	6 00@ 9 50
Straw, ₱ bale	35@ 45

Millstuffs.

Owing to tolerably heavy arrivals of bran from Oregon, this product has ruled more in buyers' favor than last quoted. Middlings brought the same prices as for several weeks preceding. Rolled barley market was steady. Cracked corn was offered at easy figures.

Bran, ₱ ton	11 50@13 00
Middlings	16 00@18 00
Barley, Rolled	18 00@19 00
Cornmeal	20 00@20 50
Cracked Corn	20 50@21 00

Seeds.

The fairly active demand which has been experienced for Mustard Seed lately, both Brown and Yellow, on European and Eastern account, has caused the market to rule firm, although no quotable advance has been established over that last stated in these columns. Alfalfa is offering at comparative low rates, and is not receiving much attention. Flaxseed market is devoid of any noteworthy feature or special change.

	Per ctl.
Mustard, Yellow	2 00@2 25
Mustard, Trieste Seed	3 00@3 25
Mustard, Wild Brown	2 25@2 50
Flax	1 35@1 50
	Per lb.
Canary	2¾@3
Rape	2¼@2½
Hemp	3¼@3½
Alfalfa, Utah	5¾@6¼

Bags and Bagging.

There is no talk worth mentioning about grain bags at present, much less any business doing in them. This is not unusual for this time of year. Values remain nominally as before. In other descriptions of bags and bagging the little business transacted is within range of unchanged figures.

Grain bags, 22x36, spot	4¼@ 4½
Wool sacks, 4 lb	.28 @—
Wool sacks, 3½ lb	.26 @—
Gunnies	9 @—
Bean bags	4 @ 4¼
Fruit sacks, cotton	5½@ 7½

Hides, Pelts and Tallow.

The hide market has presented a seemingly firm tone, but there was no active trading and prices remained without quotable change. Pelts ruled quiet at former figures. Tallow market was steady.

Honey.

There were fair receipts this week from southern coast section, but most of this honey had been purchased previous to arrival. Market shows steadiness for both Comb and Extracted of desirable quality, with offerings rather light and business mostly of a jobbing sort.

White Comb, 1-lb frames	.10 @—
Amber Comb	7½@ 9
Extracted, White Liquid	5 @ 5½
Extracted, Light Amber	4½@ 5
Amber Colored and Candied	3¾@ 4¼
Dark Tule	2¾@ 3

Beeswax.

There is a good demand for this article, and market is firm at the prevailing quotations. Stocks are of light volume, both here and in the interior.

Fair to choice, ₱ lb	.25 @27½

Live Stock and Meats.

Hog market is showing more firmness than at date of last review, with fairly active inquiry, but the preference is still given to the medium and large sizes. Values for beef and mutton continue without important changes. Following are wholesale rates:

Beef, 1st quality, dressed, net ₱ lb	5 @—
Beef, 2d quality	4 @ 4½
Beef, 3d quality	3½@—
Mutton—ewes, 4@5c; wethers	5 @5½
Hogs, hard grain fed, medium size, fat	3¼@—
Hogs, large hard	3¼@—
Hogs, soft and feeders	— @—
Hogs, country dressed	4 @—
Veal, small, ₱ lb	5 @ 6
Lamb, spring, ₱ lb	5 @ 6

Poultry.

With common qualities of poultry, small and poor, the market was about as heavily stocked as for several weeks preceding, and ruled fully as unfavorably to sellers as previously noted. Poultry in first-class condition and desirable as to size did not lack for custom and brought comparatively good prices. Dressed Turkeys are now arriving in quotable quantity, and will be a prominent feature of the market until after the holidays. The most particular buyers and those who pay the best prices insist on having only Young Turkeys, large and fat.

Turkeys, dressed, per lb	14@ 16
Turkeys, live hens, ₱ lb	11@ 12
Turkeys, live gobblers	12@ 13
Turkeys, large young	12½@ 14
Hens, Cal., ₱ doz	3 50@4 50
Roosters, old	3 50@4 00
Roosters, young, (full-grown)	3 50@4 50
Fryers	2 75@3 25
Broilers, large	2 75@3 25
Broilers, small	2 25@2 50
Ducks, young, ₱ doz	3 00@4 00
Ducks, old	3 00@3 50
Geese, ₱ pair	1 25@—
Goslings, ₱ pair	1 50@1 75
Pigeons, Old, ₱ doz	1 00@—
Pigeons, Young	1 25@1 50

Butter.

While arrivals from the northern coast dairy section are on the decrease, the output of the middle counties, or the section bordering on San Francisco bay, is on the increase. Most of the butter from latter district is the product of cows which have just come in fresh. As is ordinarily the case with such butter, it has not as a rule good keeping qualities. It is consequently crowded to sale, even at the expense of making concessions where necessary, thus imparting a rather weak tone to the market.

Creamery extras, ₱ lb	.25 @—
Creamery firsts	.23 @24
Creamery seconds	.22 @23
Dairy select	22½@—
Dairy seconds	.15 @17
Dairy, soft and weedy	— @—
Mixed store	.11 @13
Creamery in tubs	.15 @16
Pickled roll	.15 @16
Dairy in tubs	.14 @15
Firkin, Cal., choice to select	.14 @15
Firkin, common to fair	.11 @12½

Cheese.

The general condition of this market and quotable values remain very much as last noted. Gilt edge new, full cream and of mild flavor, is in very light stock and salable to advantage, commanding in some instances an advance on outside quotations. Old cheese and common grades of new are in sufficient supply to keep the market for the same rather more favorable to buyers than otherwise.

California fancy flat, new	9 @10
California, good to choice	8 @ 9
California, fair to good	7 @ 8
California, "Young Americas"	8 @11

Eggs.

While there are no large arrivals of fresh eggs, direct from hennery or farm, they have not been in active request at the tolerably stiff prices lately current on this class of stock. Prices remained without quotable change, but the market was slow, and to have stimulated the demand materially decided concessions in buyers' favor would have been necessary. Sales at 40c, the very extreme of the market, were confined to a few favorite marks of strictly fancy quality going to special custom. Eastern and local cold storage eggs are still being offered freely and at tolerably low figures.

California, select, large white and fresh	.36 @—
California, select, irregular color & size	.30 @34
California, good to choice store	.25 @28
California, common to fair store	.18 @23
Oregon, prime	— @—
Eastern, as to section and grading	.24 @28
Eastern, seconds	.16 @19
Duck eggs	.25 @—

Vegetables.

The market is fairly well stocked with the late fall and early winter varieties. Prices show few or no changes of noteworthy importance. On most sorts, however, especially for the best qualities, the tendency was to a higher range of values than has been lately prevailing.

Asparagus, Fancy, ₱ box	—@—
Asparagus, common to good, ₱ box	—@—
Beans, String, ₱ sack	—@—
Beans, Wax, ₱ lb	—@—
Beans, Garden, ₱ lb	2½@ 3
Beans, Lima, ₱ lb	2@ 3
Cabbage, choice garden, ₱ 100	50@ 60
Cauliflower, ₱ doz	40@ 50
Corn, Alameda Sweet, ₱ crate	1 00@ 1 25
Corn, Berkeley, ₱ crate	50@ 75
Corn, Green, ₱ sack	—@—
Corn, Vacaville and Winters, ₱ crate	—@—
Cucumbers, Alameda, large box	25@ 40
Egg Plant, ₱ box	25@ 40
Garlic, ₱ lb	1½@ 2
Okra, Green, ₱ box	50@ 75
Onions, Red, ₱ cental	—@—
Onions, Yellow, good to choice	25@ 32½
Peas, Green, ₱ lb	2@ 3
Peppers, Green Chile, ₱ box	25@ 50
Pepper, Bell, ₱ large box	40@ 50
Pickles, No. 1, ₱ 100 lbs	—@—
Pickles, No. 2, ₱ 100 lbs	—@—
Rhubarb, ₱ box	—@—
Squash, Summer, ₱ large box	90@ 1 15
Squash, Cream, ₱ box	20@ 35
Tomatoes, River, per large box	—@—
Tomatoes, Bay, ₱ box	15@ 30

Potatoes.

Ordinary Sacramento river stock is offering as freely as previously noted, and at as low figures. Choice to select Burbanks are in fair request at full current rates, with no heavy stocks of this sort. Oregon Burbanks are arriving in moderate quantity, but only a small percentage of them can be termed choice. Sweet potatoes are plentiful and obtainable at easy figures.

IN SACKS

Early Rose, River, ₱ cental	25@ 35
Peerless, River	—@—
Reds, River	35@ 50
Garnet Chile, Mission	40@ 50
Burbanks, River	20@ 35
Burbanks, Salinas	60@ 90
Burbanks, Oregon	50@ 75
Sweet Potatoes	65@1 00

The Fruit Market.

Fresh Fruits.

Market for fresh fruits has been quiet most of the time since date of last review, the demand having been confined almost wholly to local needs for immediate consumption. Another unfavorable feature of the market, operating against firmness of values for most fruits now in season, is the fact that consumers generally are tiring of fruit in any large quantity, the appetite craving for the time being a greater proportion of solid food than is customarily indulged in during the summer months.

Apple market showed steadiness for choice to select, with fair inquiry for qualities of this sort and only very limited quantities of the same offering. Common and defective stock was in more than ample supply, and market for such ruled against the selling interest. Grapes in free boxes for table use were in much more liberal receipt than was generally thought possible after the heavy rain of about a fortnight ago. A few select sold to fair advantage, but the market as a whole was lacking in strength. Some grapes showing damage from rain, being cracked and otherwise faulty, were salable at only extremely low prices, having to depend on street hawkers for custom. Wine Grapes in bulk were in such scanty stock that little more than nominal quotations for the same were possible.

Pears of the varieties now in season are offering in sufficient quantity for immediate needs. Most desirable stock, such as select Winter Nelis, are commanding tolerably good prices, but on common grades buyers are able to dictate prices much to their own suiting, there being no urgent inquiry for the latter sort.

Neither Persimmons nor Pomegranates make much of a showing, nor do they attract much attention from consumers. Quotable values for both varieties remain at about same range as stated in previous review.

Berry market was lightly stocked with most kinds. Strawberries were in fair receipt, but were mostly too small and dirty to be desirable. Raspberries were as a rule in good condition. Blackberries were in such scanty supply as to be hardly worth quoting.

Apples, fancy, 4-tier, per box	1 00@ 1 25
Apples, good to choice, 50-lb box	75@ 90
Apples, fair to good, 50-lb box	50@ 75
Apples, common, ₱ 50-lb box	25@ 40
Pears, Winter Nelis, per box	50@ 1 00
Pears, other kinds, ₱ box	40@ 75
Pomegranates, ₱ box	40@ 75
Quinces, ₱ box	—@—
Nutmeg melons, ₱ box	30@ 60
Cantaloupes, per crate	50@ 1 00

Berries.

Blackberries, ₱ chest	5 00@ 6 00
Currants, Red, ₱ chest	—@—
Raspberries, ₱ chest	5 00@ 6 00
Strawberries, Longworth, ₱ chest	—@—
Strawberries, Large, ₱ chest	3 00@ 5 00
Whortleberries, ₱ lb	—@—

Grapes.

Black Hamburg, ₱ box	25@ 40
Cornichon, ₱ box	25@ 50
Fontainebleau, Cal., per crate	—@—
Fontainebleau, Cal., per box	—@—
Isabella, ₱ crate	—@—
Muscat, per box	25@ 40
Muscat, ₱ crate	30@ 50
Muscat, ₱ ton	15 00@ 17 50
Mission, per ton	20 00@ 23 00
Rose of Peru, ₱ box	25@ 40
Rose of Peru, ₱ crate	30@ 50
Royal Isabella, ₱ crate	—@—
Seedless Sultana, ₱ box	—@—
Tokay, ₱ crate	30@ 50
Zinfandel, ₱ ton	25 00@30 00

Dried Fruit.

Late mail advices give the following report of the dried fruit market in New York:

The market continues in about the same position as recently reported. Exporters are not interested in spot evaporated apples, but there is a fair jobbing demand and desirable fruit is held steady. Prime and higher grades occasionally command a premium in a small way, but quotations cover general sales, though inside figures are not considered by some holders. Some sales are making in the interior for future delivery at very low prices. No movement in sun-dried apples. Chops held steady, but quiet. Cores and skins firm. Very few southern peaches here. Huckleberries steady. Raspberries firm. Blackberries dull, but held unchanged. Cherries in few hands and strong. California fruit active and firm.

The local dried fruit market has not shown much life the past week, but trade was not wholly at a standstill. About as much was done as could be reasonably expected, considering that the close of a national political campaign was witnessed, with enthusiasm in the same running to about as high a pitch as bad been ever experienced in any previous political contest in the United States.

Peaches have been in active request on Eastern account, and market for this fruit has ruled decidedly firm, with prospects of so continuing if values are kept at about the

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present range. Any radical advance in asking prices, however, over present figures, might cause a withdrawal of orders.

Nectarines have been tending in sellers' favor, White receiving the preference. The firmness of the market for this fruit is largely in sympathy with the healthy condition of the Peach market.

Apricots are in light stock, but are receiving scarcely any attention at present, and market cannot be termed firm at the quotations.

Apples are ruling quiet, the Eastern offerings noted in last issue tending to check the demand for the home product and causing buyers to be cautious in their bidding. While the market is not quotably lower, it is lacking in firmness.

Pears remain as last noted, with light stocks of choice to select quality. Pitted plums are without quotable change, supplies continuing of slim proportions.

Prunes are ruling steady, and especially are the larger sizes held with confidence. Buyers have not shown any disposition, however, the past week to operate in any noteworthy fashion at full current figures.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per ℔	7½@ 8
Apricots, Royal, fancy	9 @10
Apricots, Moorpark	10 @12½
Apples, in boxes	5½@ 6
Nectarines, White	5 @ 5½
Nectarines, Red	4 @ 5
Peaches, unpeeled, prime to choice	5½@ 6½
Peaches, unpeeled, choice to fancy	6½@ 7½
Peaches, peeled, in boxes	11 @12½
Pears, peeled and sliced	4 @ 5
Pears, unpeeled Bartletts, halved, fancy	6½@ 7½
Pears, halved, unpeeled Bartletts	4 @ 5
Pears, quartered, unpeeled Bartletts	4 @ 5
Plums, pitted	4 @ 5
Prunes, in sacks, 4 sizes	3½@ 4
Prunes, in sacks, small sizes	2½@ 3¼
Prunes, Oregon Silver	7½@ 8

COMMON SUN-DRIED.

Apricots, ordinary	5½@ 7
Apples, sliced	2½@ 3
Apples, quartered	3 @ 3¼
Figs, Black	2½@ 3
Figs, White	3 @ 4
Plums, unpitted	1½@ 2

Raisins.

Additional firmness has been developed in the raisin market since last review. Quotations for the different grades of loose Muscatel have been again advanced. The comparatively light yield this season, and the damage by rain, have both operated in favor of higher prices than had been ruling, the more so as some operators are said to be still heavily short in their contracts.

FRESNO DELIVERY, F. O. B.

Imperial Clusters, per box	3 00@— —
Dehesa Clusters, per box	2 25@ 2 50
Fancy Clusters, per box	1 60@ 1 75
Boxes, London layers, 20-℔ box	1 20@ 1 25
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ℔ ℔	5¼@5½
Loose Muscatel, 3-crown	4¼@4½
Loose Muscatel, 2-crown	3⅜@3½
Sultanas	5½@5¾
Seedless Muscatel	4 @ —

Citrus Fruit.

Lemon market is fairly stocked, with not much demand at present. Values are without quotable change, but only for choice to select are holders able to be any wise exacting as to prices. Common qualities go at irregular and generally low figures. Limes, both native and imported, have been inclining against sellers.

Oranges—Wash. Navels, ℔ box	— —@— —
Cal. Mediterranean Sweet	— —@— —
Cal. Seedlings	— —@— —
Cal. Valencias	— —@— —
Grape Fruit, ℔ case	— —@— —
Lemons—Cal., select, ℔ box	2 50@ 3 00
Cal., good to choice	1 50@ 2 00
Cal., common to good	1 00@ 1 50
Limes—Mexican, ℔ box	4 50@ 5 00
Cal., small box	75@ 1 25

Nuts.

Almonds are being held within same range of values last quoted. Only very best can be depended on to bring top figures, while on the ordinary run of offerings, concessions from current quotations would be necessary to effect sales. White walnuts continue to rule favorably to the selling interest, with only moderate supplies, either here or in the interior, and these mainly in second hands. Trading in other nuts quoted herewith has been of a light order and at generally unchanged prices.

California Almonds, paper shell	8½@ 9½
California Almonds, soft shell	7 @ 8
California Almonds, standard	5 @ 6
California Almonds, hard shell	4 @ 5
Walnuts White, paper shell	9 @10
Walnuts White, soft shell	8 @ 8½
Walnuts White, Cal., hard shell	6½@ 7½
Chestnuts, Cal. Italian	8 @10
Peanuts, Cal., fair to prime	4 @ 5
Peanuts, Eastern hand-picked	5 @ 6
Pine Nuts	12½@15

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Patrons of Husbandry.

Meeting of the Executive Committee.

The chief Grange interest of the week was a meeting of the Executive Committee in San Francisco on Saturday. Those present were Worthy Master Greer, Committeemen Walton, Jones and Louks, Lecturer Davis, Secretary Mills, District Deputy Winans of Petaluma, Starr Walton of Yuba City and the editor of the official organ. Morning, afternoon and evening sessions were held, the greater part of the time being given to the work of reading and revising the report of the late State Grange. This was completed before adjournment, and the secretary was instructed to have the report printed in usual form at a cost not to exceed $100. It was understood that a Santa Rosa printer would do the work for that sum, and as the "copy" is in his hands before this will be read, it will not be long before the printed reports will be ready for distribution.

The most important consideration of the meeting was in connection with the duties of Lecturer. Mr. Davis explained that his duties as Superintendent of Schools for Sonoma county occupied the whole of his time and consumed all his energies. Much of the work, however, could be done by a deputy. If the Grange cared enough about having its lecture work done to pay him therefor a sufficient sum to hire a deputy in his office, well and good; otherwise he did not see his way clear to accepting the Lectureship. Reduced to exact terms, he would do the work of the Lecturer's office, including regular contributions to the press in California and elsewhere, for $50 per month, and toward this salary he offered personally to contribute 5 per cent, or $2.50 per month. Mr. Davis wanted it understood distinctly that he was seeking no personal favors. He never had, he said, in all his official relations with the Grange, exacted one cent in payment for his time, and he did not now do so. All he asked was that if the Grange wanted his services, it should enable him to give them without serious financial sacrifice. He did not want his proposition accepted with the idea that such action would be to him a personal favor. Whatever the outcome of their deliberations might be, he said, would be entirely satisfactory to him.

This proposition was the subject of a prolonged discussion. It was the unanimous wish that Mr. Davis should do the work, but the ways and means to meet his proposition were not in sight. The whole income of the Lecture Fund last year was $418, and there is no reason to hope that it will be greater this year. There is, to be sure, an accumulation of about $700 in this fund, but three-fourths of it is tied up in the Grangers' Bank, and even if it were in hand the committee did not deem it wise to spend it all at this time. With general reluctance it was decided to reject Mr. Davis' proposition.

Before this point was reached Mr. Davis had gone home, and it was not understood whether or not this rejection carried with it his resignation, though that was clearly implied in his proposition. Of course, it would be practicable for him to retain the office, but it was the understanding that he did not wish to do this unless he could give to it a share of his time and energies. It is the expectation of the committee that Mr. Davis will retire; and he certainly will do so if there can be found anybody suitable who is situated to do the work without pay, or for such a sum as the Grange can afford to give. Late Lecturer Ohleyer, it appears, was paid $20 per month for his correspondence to the then official organ, the Oakland *Press*. Probably the Executive Committee would feel justified in making the same allowance now if the Lecturer could see his way to do the work for that price. As matters stand now, there is no arrangement for literary work, and whatever is done will have to be voluntary and without pay. The editor of the official organ promises to do his fair share; but the chief value of the Grange department must rest upon voluntary letters.

District Deputy Winans gave the meeting a report of his efforts in organizing work in Sonoma county. He had put in about ten days' time and was in hopes of getting up a new Grange later in the season; but up to this time nothing definite had been done.

Worthy Master Greer stated that it was his plan to start for the National Grange, to be held at Washington, on the evening of the 4th, and that the period of his absence would probably be four or five weeks. He will go via Oregon and the Northern Pacific, and will return via New Orleans and the Southern route. Besides some fraternal visitation in the East, he will visit the leading Southern cities. Mrs. Greer, of course, goes with him.

Until the Master's return, there will be no special push in the line of Grange effort in this State. At the next meeting of the Executive Committee, this subject will be considered. H.

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California Fruit Sales.

CHICAGO, October 28.—California fruit sold today as follows: Grapes—Tokay, $2 per crate 85c@$1.10 per half crate; Cornichon, $1.15; Muscat, $1; Emperor, 85@90c. Pears—Bartlett, 60c per half crate.

NEW YORK, October 28.—California fruit sold today as follows: Grapes—Tokay, $2.40@2.65 per crate; $1.05@1.50 per half crate; Cornichon, $1.20@1.35; assorted, $1.35. Glout Morceau pears, $2.10@2.45.

CHICAGO, October 30.—California fruit sold today as follows: Pears—Winter Nelis, $2.05 per box; Bartlett, 45@50c per half crate. Grapes—Tokay, $2 per crate and 90c@$1.05 per half crate; Cornichon, $1.10; Muscat, $1; Verdel and Emperor, 90c.

NEW YORK, October 30.—California fruit sold today as follows: Grapes—Tokay, $2.30@3.15 per crate and 95c@$1.75 per half crate; assorted, $1.50@1.60; Cornichon, $1.35.

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Sold by druggists, price 75c.

A Heavy Shipment.

A huge canopied traction engine, trundling noisily over the cobbled streets of San Francisco, was a sight that greeted the early riser a few mornings since. It was on its way to the Pacific Mail dock for shipment to the island of Maui via Honolulu. The Home Supply Co. was the shipper, and W. K. Hutchinson, Honolulu, was the consignee. The engine will be used for plowing and hauling sugar cane on a large plantation owned by the consignee on the island of Maui. The Home Supply Co. is now in the tenth year of its existence, and within this comparatively short period it has gained the confidence and is now supplying goods of all descriptions to over 30,000 people in the Pacific States and Territories, as well as to the Islands.

By sending for an illustrated catalogue you can get an idea of the advantages to be gained by ordering supplies through this concern. Address, with stamp, the Home Supply Co., No. 13 Front street, San Francisco.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING OCTOBER 20, 1896.

569,779.—VEHICLE—J. Appleton, Middletown, Cal.
569,740.—WASHING MACHINE—H. G. Belcher, Los Angeles, Cal.
569,951.—PROPELLING VESSELS—John Bond, Turlock, Cal.
569,958.—NAIL EXTRACTER—T. C. Creighton, Haywards, Cal.
569,787.—POTATO DIGGER.—J. C., R. J. and J. W. Hannah, Stockton, Cal.
569,878.—WEIGHING MACHINE—S. P. Mackey, Ridgefield, Wash.
569,796.—BICYCLE SADDLE—S. L. Myers, Santa Rosa, Cal.
569,883.—SPRAYING APPARATUS—J. C. Ollard, Tacoma, Wash.
569,933.—ELEVATOR—J. Parkinson, Los Angeles, Cal.
569,934.—ELEVATOR—J. Parkinson, Los Angeles, Cal.
569,676.—RAILWAY CAR—J. Shaw, Woodburn, Or.
569,982.—ADVERTISING WAGON—Ward, Turner & Kendall, Tacoma, Wash.
569,899.—MACHINE GUN—H. C. Webb, Tacoma, Wash.

NOTE.—Copies of U. S. and Foreign patents furnished by Dewey & Co. in the shortest time possible (by mail for telegraphic order). American and Foreign patents obtained, and general patent business for Pacific Coast inventors transacted with perfect security at reasonable rates, and in the shortest possible time.

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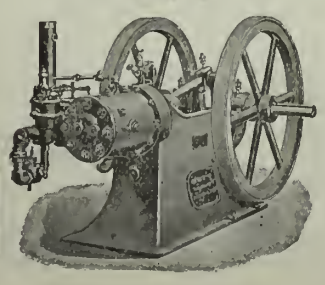

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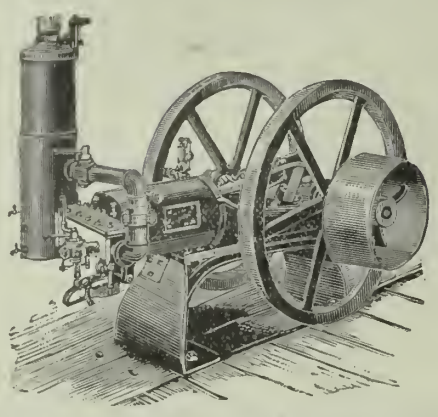

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Coal Gas, ten hours' run, 1000 feet	$2 00
Gasoline (74 deg.), ten hours' run, 8¾ gallons @ 14c.	1 25
Coal Oil, ten hours' run, 7½ gallons @ 10c	75
Crude Petroleum, asphaltum base, 16 gallons @ 3c	48
Crude Petroleum (36 deg.), paraffine base, 13 gallons @ 5c	65

On the crude petroleum with asphaltum base we had an over-product of 7 gallons of asphaltum; the market price is 3 cents per gallon=21 cents. This deducted from the first cost of the crude petroleum for ten hours' run leaves a net balance of 27 cents. And from the crude oil with a paraffine base we had an over-product of 3 gallons of good lubricating oil, which we consider equal to any we have ever used, but will estimate its value conservatively at 20 cents per gallon, making 60 cents; this deducted from the first cost of the crude oil leaves a balance of 5 cents, total cost of running ten hours.

It will be readily seen that the operation of these Engines with crude petroleum reduces the cost of operation to a minimum. Crude petroleum with paraffine base at 1-10c per horse power per hour; on crude petroleum, asphaltum base, ¼c per horse power per hour; on domestic coal oil, 1½c per horse power per hour; and on gasoline, 2½c per horse power per hour.

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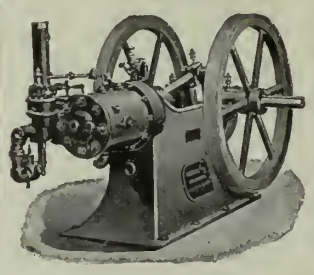

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Some manufacturers are making astounding statements of the economy of their crude oil gas engines, the great saving claimed being based on the very peculiar assumption that the refuse fuel has a ready market value and that each and every customer will place this refuse, or so-called asphaltum or lubricating (?) oil on the market—in fact, start up a retail asphaltum and lubricating oil business. Such a proposition will hardly appeal to common sense. The economy claimed in using paraffine oil is equally misleading. **Just bear in mind the indisputable fact that there is no paraffine base oil produced west of the Mississippi.** Some California crude oil contains paraffine in small quantities, but the base of such oils and all other California oils is asphaltum, without exception. Oil producers and refiners claim, and they ought to know, that less than 40 per cent of crude oil is capable of being transformed by heat into gas; consequently 60 per cent must be refuse, if used in gas engines.

Now, if you were using coal for steam purposes, which would you buy, clean coal at $6.00 per ton or coal which was 60 per cent stones and slate at $3.00 per ton, even if you could sell a load of stones, say for ballast, once in a while? We admit that gas engines will run on crude oil after a fashion, but the asphaltum cuts the cylinder, gums the valves and causes no end of trouble; besides the power obtained is much less, and **consequently you have to buy a larger engine than necessary—one-third larger.** Distillate oil is a product of asphaltum base—California crude oil—the distillate being obtained by evaporation, clean and clear without a trace of asphaltum in it. The price is only from 6½c to 9c per gallon, and every drop is fuel. No "**retail asphaltum or oil business**" about distillate; and

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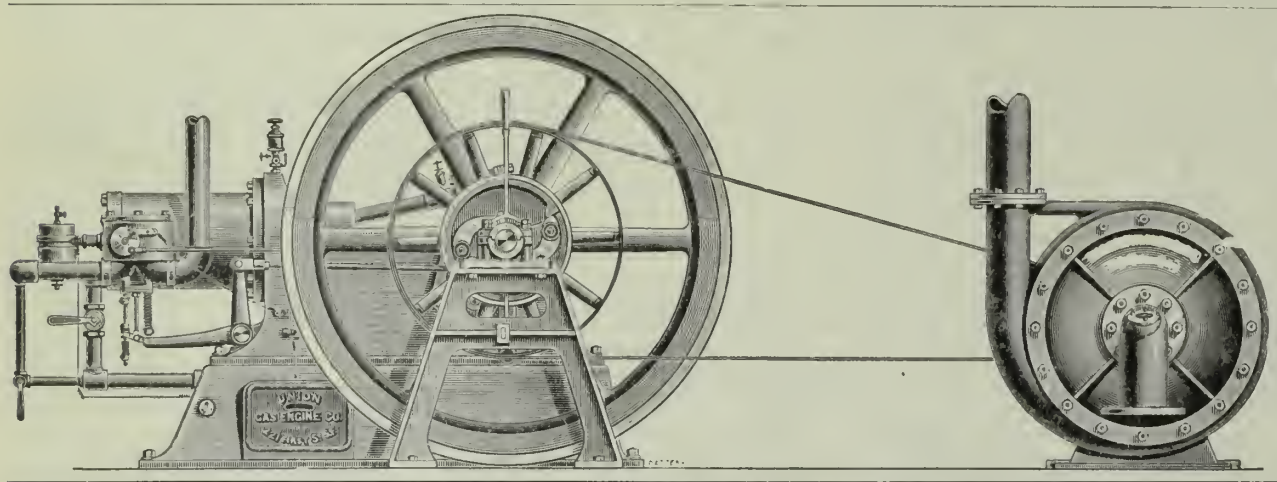

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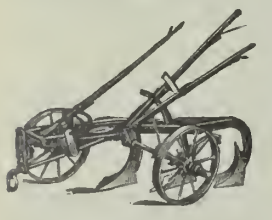

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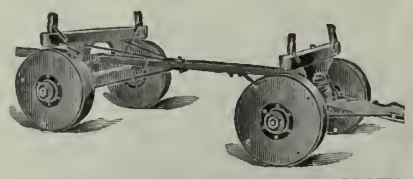

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THE PACIFIC RURAL PRESS AND CALIFORNIA FRUIT BULLETIN.

Vol. LII. No. 20. SAN FRANCISCO, SATURDAY, NOVEMBER 14, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.

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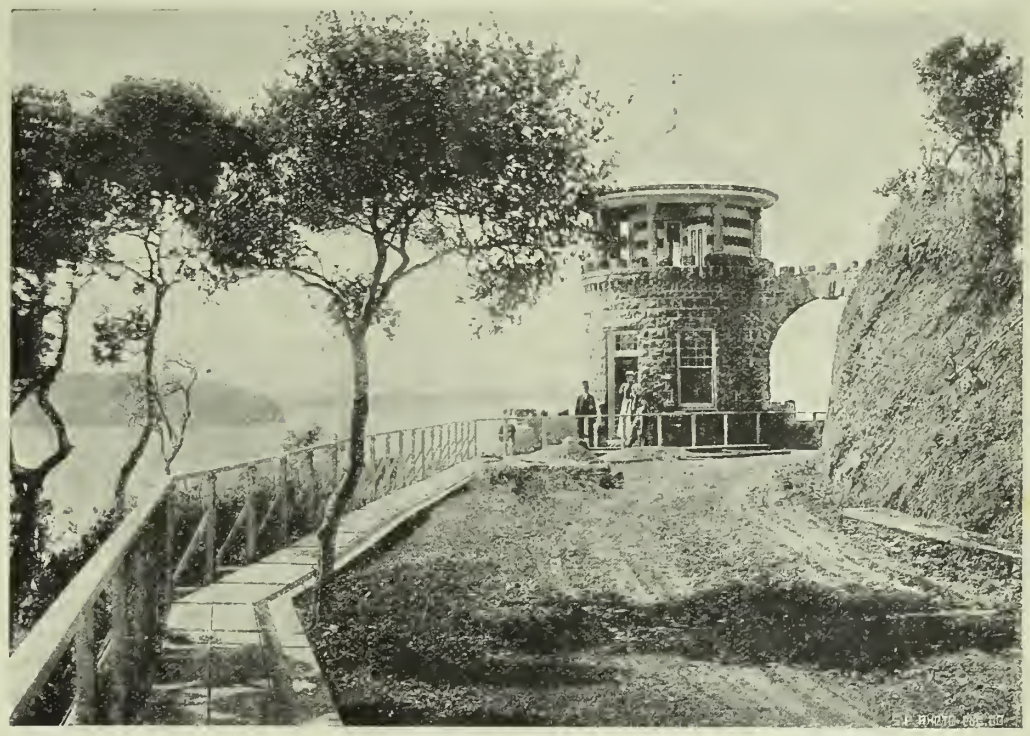
Paper not to be taken from the Library.

Point Tiburon.

During recent years the picturesque region just across the narrow waters which connect the bay of San Francisco with the Pacific has rapidly advanced in popularity and prominence. It lies but a few miles away to the northward from San Francisco and is in plain view from the northward slopes of the hills upon which the chief residence portions of the city is built. It comprises the southern extension of the county of Marin and as a suburban region is in sharp rivalry with the more largely occupied suburban areas lying across broader waters eastward of San Francisco. For close views of salt water, for more commanding eminences and for all the picturesque points of bold shores the Marin county suburban regions are unrivalled among the suburbs of San Francisco. There are excellent means of communication, much wealth has been expended in the construction of dwellings and adornment of their surroundings and various other lines of improvement have made the region very acceptable for suburban residence purposes. Naturally too, aside from its picturesqueness, the region is well endowed for it has sheltered places where a most genial climate prevails and where from out of sunshine and warmth and still air one can look upon the driving fogs which at certain seasons of the year bring chill to exposed portions of the city proper.



THE GATEWAY AND WATCH TOWER AT POINT TIBURON.

Our engravings bring to view one of the most picturesque and salutary regions north of the bay, upon which the owner is now making well planned expenditures, which will greatly aid in its prominence and availability. The owner is Dr. Lyford, who has had proprietary interests in the locality for a long time and has agricultural as well as suburban improvements constantly on hand. The pictures give a suggestion of the picturesque character of the place and the means adopted to make its access safe and convenient. The gateway lodge and tower are quite in harmony with the environment, and the planking and rail serve well a temporary purpose until more tasteful rock work can be indulged in.

THE *Rural New Yorker* believes that if some of the men who advocate the immediate killing of every cow that responds to the tuberculin test would make a journey to the New Jersey Experiment Station, they would be silent for a long time. They would find there strong and rugged animals that responded to this test, yet are likely to die of old age. They are giving pure, rich and healthful milk, and are, on the whole, in better health than when first tested. Such cows are living examples of the folly of killing all animals that respond to this fine and delicate test. At the same time this experiment about upsets the theory that the tuberculin stimulates or increases the disease is an animal that is well cared for.

THERE is the greatest activity now discernible everywhere in California fields. The latest fruits are now going forward to the East, and the large shipments of late table grapes will go far to bring the season's aggregate by rail well up in creditable figures. There are preparations going forward for the sowing of the greatest acreage of wheat ever made in California, and the seasons favor it. There will be a grand surplus rolled up if the season carries through anything like the auspiciousness of the beginning. There ought to be work enough for all who want it in 1897.

THE death of Baron Von Mueller, the celebrated Australian botanist, is announced as having occurred at Melbourne on October 9. Baron Von Mueller was perhaps the highest authority upon Australian plants and upon plants of econmic importance to semi-tropic countries. California is under great obligations to him and many plants and trees now well-known first came to this State through seed sent by him. He attained an age of 71 years and died in the midst of plans for future activity in his chosen lines.

THE accounts which come of a recent vintage festival at Jacob Gundlach's in Sonoma county, would make one think that a piece of the olden time in Germany had fallen upon California. They had a festival in which the local schoolmaster personified Bacchus at an open air play in a grove of oaks. Afterwards dancing was indulged in until a late hour in the beautifully decorated wine cellar, which was lit with different colored incandescent lights. It must have been a time of the greatest merriment.

A WASHINGTON GROWER, T. P. Cantwell of Puyallup speaks very highly of the Logan berry. As to shipping qualities, it can be sent from Puyallup to St. Paul, if properly packed. The berry appears to be ripe and is of red color some time before it is fully ripe. For long shipments it should be picked in that stage, when it will not bleed, but becomes mellow en route. When ready to pick for home use the fruit is a dark, handsome red color.

THE Portland market is flooded with Eastern apples in barrels, which sell at very low rates. Along with these, so it is declared, the State is getting a large assortment of Eastern insect pests, including the codlin moth.

ROADWAY ALONG THE ROCKY SHORE AT TIBURON.

PACIFIC RURAL PRESS.

Office, No. 220 Market St.; Elevator, No. 12 Front St., San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Any subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

Our latest forms go to press Wednesday evening.

Registered at S. F. Postoffice as second-class mail matter.

ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, November 14, 1896.

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The Week.

Weather and Crops.

There has been another gentle storm which covered wide areas of the State and has started plowing and seeding in all directions throughout the upper half of the State. Great activity in all lines of late fall work is now discernible. Evidently the improved prospect drawn from present advanced values is inducing confident effort on the part of producers.

The following data for the week ending 5 A. M. Wednesday, Nov. 11, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	3.48	6.76	4.16	5.56	60	36
Red Bluff	.30	2.07	2.97	3 38	66	40
Sacramento	*	*	1 56	2 27	*	*
San Francisco	.31	2.51	2.18	2 45	65	49
Fresno	.01	1.55	.29	1.07	70	38
San Luis Obispo	....	1.68	2.16	*	78	40
Los Angeles	.02	.38	.63	1.59	74	50
San Diego	.12	1.00	.99	1.02	70	48
Yuma	....	.58	.32	1 04	84	44

* Indicates no record.

Citrus Fair at Fresno.

Preparations for the citrus fair to be held in Fresno early in December are going forward in good shape. Arrangements have been made for the erection of a pavilion 150x250 in size, which will be lighted by electricity. Most of the neighboring counties have signified their intention to make exhibits, and it is confidently expected that the display will be notably fine. Besides citrus fruits there will also be exhibits of raisins, dried fruits of all kinds, wines and other products of the orchard and farm. Special excursion trains will be run and a very large attendance is anticipated.

The Fruit Growers' Convention.

The twentieth State Convention of Fruit Growers of Californian will convene at Sacramento, in the Senate chamber of the State Capitol, under the auspices of the State Board of Horticulture, on Tuesday, December 1, 1896, and will continue in session four days. A cordial invitation is extended to all fruit growers, shippers, packers, nurserymen, and others interested in horticulture and kindred pursuits, to be present and take part in the proceedings of the Convention, and it is hoped that every branch of the industry will be well represented The purpose of these conventions is to enable fruit growers and others interested to come together for a general interchange of ideas and to profit thereby.

It is yet too early to announce a programme for the meeting, but matters of great importance to the producers that will be considered, will be the marketing of California fruits in the East, the opening of new markets, the feasibility of establishing stores in all the large cities, etc. There is no "apparent overproduction of fruit, but an apparent underproduction of effort on the part of producers to distribute their fruits;" therefore, the great and all-absorbing question of distribution will claim the attention of the Convention, and all those interested should not fail to attend.

The Wheat Shortage

When we consider the facts, it is not at all surprising that the wheat market has again picked up what it recently lost by reaction from the previous advance and has gone on to higher figures. The famine in India is assuming acute form and rioting has begun. On Sunday, at Shotaput, where 5000 men looted 1500 bags of grain, the police fired upon the mob, killing four men and wounding six. A further outbreak is feared, as Shotaput is in one of the worst famine districts. The state of the market in Great Britain is shown by the cabled extract from the *Mark Lane Express* of Nov. 9th, as follows:

The deficiency in India is now known to be very serious, but it is not likely any large wheat imports will occur. Although prices only range from 26s to 36s per quarter, the extreme poverty of the Indian populace renders anything over 30s almost prohibitory, and 15s to 25s is the usual range. Owing to the failure in India and Australia, a deficiency of 2,033,500 quarters has been created in Great Britain's usual supply, which must be made up from other sources, and is the change in the situation which in itself is sufficient to uphold the recent rise. The quantities of wheat on passage to the United Kingdom on Nov. 7th were 2,045,000 quarters, of which Russian wheat amounts to 400,000 quarters, North American to 300,000, South American to 100,000, Californian to 1,220,000 and elsewhere to 25,000.

Business at the Baltic in wheat opened steady and quiet. On Mark Lane wheat was firmly held, about 1s 6d higher than Friday. Business at the Baltic closed very quiet, but holders adhered to the opening prices.

Farmers' Institute.

Quite a number of Farmers' Institutes under the auspices of the University of California have now been definitely arranged for. During the past week very satisfactory two-day Institutes were held at Grass Valley and Newcastle and others have been set at the places and dates named below:

Paso Robles	Nov. 12
Danville	" 14
Centerville	" 20
Napa	" 20 and 21
San Jose	" 28
Gilroy	" 30 and Dec. 1
Hollister	Dec. 2
San Luis Obispo	" 4 and 3
Santa Rosa	" 4 and 5
Selma	" 9 and 10
Hanford	" 11 and 12
Three points in Ventura and Santa Barbara counties	" 14 to 19
Willows	" 18 and 19
Woodland	" 21 and 22
Thres points in San Bernardino and Riverside counties	Jan. 4 to 5

The above is but a partial list of those which will be held as other applications still await the fixing of dates. Readers of the RURAL in the vicinity of the places named are urged to note the dates and participate in the meetings. All are welcome.

Poultry Show at San Jose.

Next week—Wednesday to Saturday—the annual show by the Santa Clara Valley Poultry and Kennel Club will be held in San Jose at Hale's Hall. Active preparations are now being made for this event. The number of entries which have been made from all portions of California has already exceeded 1000, which gives an idea of the interest being taken in the event. The prizes offered are numerous and valuable, very liberal donations of cash and goods having been made by local merchants. Although many famous birds will be on exhibition from the East and from Oakland, Sacramento, Stockton and other places in California, the local fanciers do not expect the visitors to carry off all the honors.

Gleanings.

AT Napa last week a vicious horse driven in the asylum 'bus bit off the finger of Charlie Martin, a little boy who was feeding him.

THE first carload of navel oranges for the season of 1896-97 was shipped from Los Angeles on Saturday last. They came from the foothills near Glendora and are said to have been fully ripe.

A FARMERS' INSTITUTE, under the direction of the agricultural department of the State University, will be held at Napa on the 20th and 21st in the court house. Professor Woodworth and Mr. Hayne, from Berkeley, will be in attendance; also Mr. Edward F. Adams, who is acting for the University in the capacity of organizer.

THE prettiest thing in the way of a floral publication that we have seen for many a day is the "Sweetpea Review," just issued by the Sunset Seed and Plant Co. It is a handsome booklet of thirty-two pages, containing complete classification in color groups according to type, with recommendations for the expulsion of the least desirable sorts. It has been compiled from careful notes made during the sweetpea growing season of 1895-96, with comparative chart and handsome illustrations. Price 25 cents; address Sunset Seed and Plant Co., San Francisco, Cal.

CLOVERDALE *Reveille*: Cloverdale can boast shortly of having one of the largest wine tanks in the State, the Moulton Hill Winery claiming that distinction. The new tank which is under way and will be completed for this season's vintage, is 30x50 feet and 16 feet deep. It will be made of cement and will hold 120,000 gallons. Four other tanks, of wood 11,000 gallons capacity each, are also under way.

WATSONVILLE *Pajaronian*: Shippers have been favored with a good home market this year. With proper introduction, and by keeping the apple up to choice grading, a permanent and profitable California market can be opened up for Pajaro apples. California is not overburdened with good apple country, and nothing better than the Pajaro district has been opened up. * * * Reliable estimates of the apple crop of this valley show that with very few exceptions the packers have cleaned up on Bellefleurs and that there are not to exceed twenty carloads in the packing houses; that the Newton Pippin crop will probably reach sixty carloads, and run about 40,000 boxes; that the Pearmains and other varieties of apples will bring a total of over one hundred carloads now on hand in this valley. Of this amount quite a percentage has been contracted for delivery.

Pith of the Week's News.

IT is estimated that the popular majority for McKinley will run over a million votes.

THE San Francisco Presbyterian Union has declared its opposition to church fairs.

THE first blizzard of the season paid its respects to Chicago and vicinity on the 5th inst.

THE total registration at Stanford University for the present college year foots up exactly 1000.

L. P. FARMER of Sutter county has been appointed trustee of the State Normal School at Chico, vice Geo. Ohleyer, deceased.

GENERAL MILES is quoted as saying that Colonel Fred Grant will be Secretary of War in the Cabinet of President McKinley.

JAMES MARSHALL, one of the wealthiest men in Santa Rosa and a pioneer, and very highly respected, died at his home last week.

THE Democratic organization of Illinois has declared its devotion to Governor Altgeld, who will continue in the leadership.

JAMES QUENTIN of Redwood City has bequeathed an estate of $200,000 to the Protestant orphan asylums of San Francisco and Sacramento.

MRS. W. H. VANDERBILT, widow of the late railroad king and mother of the present active generation of Vanderbilts, died last week at the age of seventy-five.

As soon as the result of the election was definitely known to him, Bryan sent a civil message of congratulation to the President-elect to which the latter replied in terms equally civil.

LILIOUKALANI, formerly queen of Hawaii, and who was convicted last year under severe penalties for treason, has by the act of the Provincial Government been restored to her several rights.

THE Cascade locks, connecting the Lower and Middle Columbia rivers, were formally opened on the 5th inst. They have been nearly twenty years in building and have cost the Government two million and a half dollars.

THE New York horse show opened on the 9th inst. and promises to be a very brilliant affair. Among the Californians in attendance upon it is young Walter Hobart, who is making collections of horses to be exhibited at the coming horse show in this city.

THE series of misfortunes which have attended the battleship "Texas" since her launch four weeks ago, culminated on Monday in her sinking to the bottom in the harbor of the Brooklyn Navy Yard. The cost of raising and cleaning her will be enormous.

BOSS PLATT of New York will probably be elected to the Senate when the Legislature meets in January. He was once before a Senator, but after a short period of service, resigned in common with ex-Senator Conkling in anger at President Garfield for declining their dictation in the assignment of Federal patronage in New York.

PRESIDENT CLEVELAND remained quietly at home on Election Day and did not vote. Most of the members of the Cabinet went home to their respective States, and it is understood that they voted for the Palmer and Buckner ticket. The administration makes no secret of its satisfaction in McKinley's election.

IN the London court last week Mr. Walter Castle of San Francisco was acquitted of a charge of shoplifting; but his wife pleading guilty, was sentenced to a term of three months in prison. Her physical and mental condition is said to be deplorable; and in view of these facts, it is believed that she will speedily be released.

UTAH has elected, in the person of a Mrs. Sarah H. Canon, the first female member of the Legislature. Mrs. Canon ran in opposition to her husband, beating him by about four thousand votes. It is possible that this sort of thing will not disturb domestic unity, but probably it would be well not to bet too high on that view of the matter.

THE brother and sister of James Dunham, the McGlincy murderer, have had their names legally changed to Cobb in order to escape the discredit which attaches to their original name. It is said that they will move to a distant State and begin life there where prejudice growing out of their brother's crime will not operate against them.

THE Chico *Enterprise* reports the tragic death of James C. Duncomb which occurred last week on his farm six miles east of Chico. He was "cultivating," and was riding on the seat of his machine. The teeth of the cultivator suddenly struck a rock, throwing Mr. Duncomb under the machine. He was terribly mangled, and died before a doctor could arrive.

CONGRESSMAN DINGLEY of Maine, in an interview of the 9th inst., declared that in his opinion very little will be done at the short session of Congress soon to convene at Washington. He does not think the Republican forces in the Senate will be strong enough to enforce any radical change in the tariff laws until after the new administration and the new Senators to be elected shall come into office.

CHAIRMAN JONES of the Democratic National Committee has issued a statement in which he claims that McKinley's election was brought about by coercion and intimidation on the part of the money power, including threats of lock-outs and dismissals, and by the employment of the largest campaign fund ever used in this country and by the subornation of a large portion of the American press.

A DISPATCH from London reports a very marked increase in buying orders from the United States, and this fact furnishes a hint of what will undoubtedly be the policy of importing merchants during the next few months. In anticipation of increased tariff rates, they will, undoubtedly rush into the

country vast quantities of cheap foreign goods, holding them for the higher prices possibly to be charged under the new tariff.

It is the plan of the directors of the Valley Railroad to extend the line, which now terminates at Fresno, south to Bakersfield and possibly to a connection in southern California, and to that end they contemplate offering a heavy issue of bonds upon the market. Intimations from the money centers have been received to the effect that any amount in reason will be readily subscribed. It is probable that the coming issue will call for $6,000,000.

The State of Washington has elected a Democratic-Populist fusion ticket by a heavy majority. The new Governor is a Populist and a majority of the Legislature to meet in January are also members of that party. A Senator is to be elected in January to succeed Senator Squire, a silver Republican. Squire supported Bryan and the fusion State ticket in the recent campaign and is a candidate for re-election, but without much chance for success.

Senator H. M. Teller of Colorado expresses the opinion that the Republican party will do nothing for silver during the coming four years. "I expect," he says, "to see the Republican party abandon all pretense to a desire to secure international bimetallism and the contest hereafter will be made between the gold standard supporters and the organized silver forces." He thinks the present verdict will be reversed by that of four years ahead.

Associate Justice Field of the United States Supreme Court attained his eightieth birthday last week. In spite of broken health, he continues to discharge his official duties, and is planning to extend the period of his service until the time when McKinley shall be President. Although a Democrat in politics, he does not wish to give President Cleveland the opportunity to name his successor. Justice Field was appointed to the Supreme bench by President Lincoln, and within a few months will have served longer than any other man who ever sat in the Supreme Court.

On the 9th inst. Lord Salisbury, the English Prime Minister, in a speech at the Mansion House devoted to international affairs, practically admitted that the demands of the United States in the matter of Venezuela as set forth by Mr. Cleveland some months ago have been acceded to. The boundary dispute is to be referred to unrestricted arbitration. Turning to Turkish affairs, Lord Salisbury declared that the policy of the British Government would not be altered, which means that no attempt will be made on the part of England to forcibly interfere in the treatment now being meted out to the Christian peasants of Armenia by their Turkish overlords.

Evidence accumulates to show the weakness of Spain in her contest with Cuba. Her war chest is empty, her troops poorly supplied, and recent efforts to float a national loan have failed most dismally. There are intimations that she would be glad of a pretext to give up the fight and that she would like interference on the part of the United States. In the meantime the fight goes on in desultory fashion, with no marked change on either side. The Spanish commander, Weyler, has gone to the front to personally direct operations there, but nothing decisive is expected in consequence of this movement. Rather better fortune has attended the Spanish effort to suppress insurrection in the Philippine Islands. The mass of insurgents is vastly larger than in Cuba; but they are poor in leadership, in armies and discipline, and are easily mowed down by scores when they undertake to meet the regular troops in open battle. The Philippine war is being attended by unspeakable barbarities, both sides being equally implicated. The general opinion is that the Philippine rebellion will soon be suppressed.

It is not possible to figure out just how the United States Senate will stand after the 4th of March. It is estimated that the Republicans will have a majority of one or two, including those who have declared their devotion to the silver cause as paramount and who it is suggested will decline to support any scheme for revising the tariff until the claims of silver shall have been disposed of. The House, of course, will be overwhelmingly Republican. Under the circumstances it is not deemed positively certain that any decisive action can be taken to restore the tariff upon the protective basis. It is to be noted, however, that several Senators who stood solidly for silver in the recent session of Congress have since that time joined in the campaign for McKinley and it is reasonable to assume that their attitude will be altered by the changed political conditions which will surround them. An example of this sort is afforded in our neighboring State of Oregon, where Senator Mitchell, hitherto a radical free silver man, has joined heartily with his party during the recent campaign. He comes up for re-election in January next and is pretty likely to put himself in line with his party before he gets it.

Telegraphic reports of the last week contain many accounts of the starting up of factories and other industrial establishments which have long lain idle or have been operated on half time. The reason generally given is the increased confidence brought about by the settlement of the presidential question and in the hopes of more favorable conditions under reorganized and increased tariff. Whatever the cause may be, the new activity promises to give profitable employment to great numbers of workmen who have long been unemployed, and the consequence of their prosperity can not fail to be reflected in greater demand and steadier prices for such staples as California dried fruits. As the Rural has often set forth, the leading reason for the long season of low prices has been the fact that the working classes, who are the chief Eastern consumers of our fruit products, have through the partial cessation of manufacturing industries, been too poor to make their customary purchases. As it has been graphically said, these last three years have been "potato and bean times, rather than fruit times," since the question with multitudes of housekeepers has not been how to please the palate, but how to provide a proficiency of food for the maintenance of life and health.

Mr. Bryan, the defeated presidential candidate, is reported to have been offered large sums to engage in professional work and to have declined them with the view of devoting his energies from this time forth to the agitation of the free silver project. As a beginning in this work he has issued an open letter addressed to the bimetallists of the United States in which he declares that the contest has just begun and that it will be on again with new energy and greater strength in the presidental year of 1900. The friends of bimetallism (by which he means free coinage at the ratio of 16 to 1) have not been vanquished but simply overcome. "They believe," he continues, "that the gold standard is a conspiracy of the money changers against the welfare of the human race and they will continue warfare against it. The trusts and corporations," he says, "have tried to excite fear and lawlessness, while the American financiers have secretly bartered away the nation's financial independence." Speaking for himself, he declares that he has been amply repaid for all he has done in the "love of millions of his fellow citizens." He believes that those who have succeeded in the election will be unable to successfully support the present financial conditions and before the year 1900 arrives the people will be ready to demand a new financial policy and will join with him and his supporters for the free and unlimited coinage of silver at the ratio of 16 to 1.

Complete returns from the elections of last week confirm practically the first report given in the last Rural. McKinley is elected by a very heavy popular vote, which involves an electoral vote even larger in ratio. He will be supported by the House of Representatives, in which his party majority will be overwhelming. The political complexion of the Senate is still uncertain, but probably after March 4th the Republicans will have one or two majority, if there be reckoned in this number men like Dubois of Idaho and Cannon of Utah, who were elected as Republicans, but who have since allied themselves with the radical silver forces. The votes of these men will be necessary for any general tariff legislation, and it is an uncertain question if they will be bestowed in this behalf until their claims for silver have at least been passed upon. Our private opinion is that they will accept the judgment of the country and of their party as pronounced in the recent election, and that they will be found among those who will support the policy of the new President. In California the original reports which gave McKinley a majority still hold good, but the figures have been cut down to a narrow vote of somewhere within four thousand. Before the election it was supposed that San Francisco would give a heavy vote for McKinley, based on his support of the gold policy, while the country would go heavily for Bryan and silver. These calculations have not been confirmed by the election; for, while the city broke about even, the country—that is, all of California outside of San Francisco—gave a substantial majority for McKinley. In the city Phelan, Democrat, is elected Mayor, with a Board of Supervisors selected by the bosses. The new charter is defeated by a margin so narrow that the advocates of a reform government are hopeful that the project may win if submitted to a special election. It is understood that steps will be taken very shortly to revise the proposed charter in some minor parts and to resubmit it early in the year 1897. The feeling is that now, when the good intent of the community has been illustrated by the election of Phelan, is the time to press the matter of a reformed city charter.

The Outlook for Wheat Prices.

The following article is reprinted from *Bradstreet's* journal, the leading American authority, of October 31st. Its predictions have already been measurably justified by a later advance in the price of wheat:

There need be no fear that the price of wheat is likely to react to and remain at the lower levels which prevailed for so many months prior to the recent advance of about 22c. per bushel.

The price has, to be sure, declined sharply. In fact about one-half the grain mentioned has been lost. This is due in part to a sudden cessation of demand abroad, in the face of temporarily abundant supplies called out from exporting countries, notably in the United States, by the rapid advance of quotations. The sudden upward movement of the price also suggested the realization of profits by large holders of wheat, and, as in almost all similar instances, the sudden and extreme upward swing of the pendulum was followed by a return movement of some extent.

The cause of the advance of prices has been pointed out in this and other newspapers so often as to hardly call for repetition, yet it may be well to enumerate the short crop in Russia, expectations of a greatly reduced supply in India, a smaller crop in Argentina, and perhaps only an average crop in the United Ststes. Various so-called authorities have estimated the decrease in the world's yield of wheat in 1896, as compared with 1895, at 150,000,000 bushels, and Beerbohm places this year's shortage, as contrasted with the world's average annual yield from 1891 to 1895, inclusive, at 136,000,000 bushels. The English expert gives the following summary of the causes of the recent rise in wheat values:

First there was an impression that the world's crop would prove to be a comparatively light one—since confirmed to a great extent; then came more decisive reports of a deficient crop in Russia and America; then followed the sharp rise in freights and the fears of famine in India, and now, finally, we are confronted with the probability of a more or less serious failure of the Australian crop. Under these circumstances it will be seen how much depends upon the success or failure of the next Argentina crop. The question of how much wheat India may import is, of course, impossible to answer; but it is a serious matter when a country consumes usually about 25,000,000 quarters of wheat per annum suffers from a failure of the crop of the nature which seems in prospect this season.

We have been asked to give a record of the world's crop since 1873, the year when France and other countries cast off silver. This may be found interesting, and is as follows (in quarters of eight bushels each), divided into quinquennial periods:

WORLD'S WHEAT PRODUCTION.

	Quarters.		Quarters.
1896	290,000,000	1885	260,000,000
		1884	280,000,000
1895	309,000,000	1883	253,000,000
1894	320,000,000	1882	278,000,000
1893	308,000,000	1881	245,000,000
1892	291,000,000		
1891	298,000,000	Five years' aver.	263,000,000
Five years' aver.	307,000,000	1880	245,000,000
		1879	232,000,000
1890	283,000,000	1878	250,000,000
1889	268,000,000	1877	245,000,000
1888	278,000,000	1876	217,000,000
1887	284,000,000		
1886	270,000,000	Five years' aver.	238,000,000
Five years' aver.	276,000,000	1873	221,000,000

We should explain that for the last ten or twelve years the above figures are compiled almost entirely from official returns; in previous years we have had to rely to a greater extent upon commercial estimates. In putting the present season's production at 290,000,000 quarters we have allowed 9,000,000 quarters for Argentina, against 6,500,000 quarters last year, and 3,500,000 quarters for Australia, against 8,000,000 quarters last year.

Additional price influences are found in the reported poor crop of potatoes in the United Kingdom and on the continent of Europe, which is expected to tend to increase the demand for wheat in England, France, Holland and Germany.

That there will be enough wheat to go around goes without saying, and it is entirely possible that the alleged shortage in Russia has been magnified and the prospect for a decreased yield in Argentina overdrawn. In fact, the London *Miller* estimates the total requirements of wheat-importing countries at 22,000,000 bushels less than the total export supplies of wheat in exporting countries—a pretty narrow margin, though on the right side.

But when the most has been told with respect to the outlook for ample supplies of wheat, the fact remains that after three or four years of excessive output, the yield fell away in 1895 and has declined again in 1896, this time more sharply; that supplies in importing countries have been allowed to run down, and, most important of all, that importing countries have been first to discover the outlook for reduced supplies and for higher prices themselves. The late "boom" did not start in the United States, but in England. The London *Economist* concludes that wheat is likely to be higher rather than lower, and that there is a real deficit in the world's wheat crop. For the first time, perhaps, since 1879 America now appears to hold the key to the situation, for every bushel of wheat in the United States available for export will be wanted abroad.

The domestic crop, recently estimated on the basis of the Agricultural Department report at 412,000,000 bushels, is now said by students of the Government report to be likely to amount to 435,000,000 bushels. Against this it is argued that an 80,000,000 bushels shortage in the leading spring-wheat States means just that much less wheat produced this year than last. There are prominent millers, elevator men and others who argue from the foregoing that the 1896 domestic crop amounts to only about 387,000,000 bushels—because the Government reported a total crop last year of only 467,000,000 bushels. To be sure, statistics of the distribution of the 1895 crop point to it having been nearer 500,000,000 than 467,000,000 bushels, but the authorities referred to do not seem to place any weight on that. But if we presume that the 1896 crop is only 400,000,000 bushels, as so many in position to judge have declared, and add to it 60,000,000 bushels available from the quantity carried over on July 1, 1895, we find a grand total for use at home and abroad of 460,000,000 bushels. Of this 378,000,000 bushels are estimated as needed at home for food and seed, leaving only 82,000,000 bushels for export to June 30, 1895. We have already exported about 55,000,000 bushels, leaving only 27,000,000 bushels to ship out of the country during the next eight months, about 750,000 bushels per week, about one-fifth what we are now shipping weekly. If this situation were generally appreciated or believed, "dollar wheat" would soon be a reality. Do our extremely bullish friends in the Northwest believe the domestic wheat supply is as short as this?

The price of wheat will probably have to advance above recent high levels, even if the crop is 450,000,000 or more, which is not unlikely.

Strawberries in Placer County.

By E. B. Silva of New Castle, at the New Castle Farmers' Institute.

While the aggregate product of the strawberry growers of Placer county is of considerable volume, there are but few, if any, engaged in growing this product exclusively, but many of our orchardists, especially among the beginners, have patches of from a few hundred plants to two or three, and in a very few cases more, acres.

Local Conditions.—It seems useless to go into minute details in regard to the cultivation of this berry. They thrive under widely different systems, and while one grower, under a certain system meets with perfect success, another pursuing an almost opposite method succeeds equally well. Soil, location and the seasons have more to do with success in strawberry farming than any particular style of cultivation. In our foothills the sort varies greatly in character and are often meet with all kinds of behavior among plants of the same variety in the same row.

Varieties.—Varieties should be chosen which are adapted to the soil in which they are to be planted, and, as the berries grown in this county must in most cases be shipped to distant markets, we must require firmness as one of the most necessary characteristics. To be profitable the variety must be productive. While berries of large size can be picked more cheaply than small ones, the markets do not require immense size—medium size berries of bright glossy color give good satisfaction.

Our first experience was with the old "Longworth Prolific" which was in this section the great market berry for many years. While the berry was small in size, after the first few pickings, it was firm and bright and pleased the eyes of purchasers. "Monarch of the West" superceded it and was grown extensively for a number of years and is still grown to a limited extent. It does not come up to the requirements in color or firmness. "Sharpless" promised to be profitable but was so soft that only a few markets were available. The "Dollar" is now the leading berry in this section and is growing in favor rapidly in other berry raising regions of the State. It combines more desirable qualities than any other variety ever grown here. It is of uniformly good size, productive, bright red color, excellent flavor

and no strawberry ever grown can approach it in firmness. Our shippers land it in Montana, Colorado, Idaho and other distant markets in excellent condition, and shippers generally pay a higher price for the "Dollar" than for any other variety which comes into our market. It is also claimed to be superior for canning, holding its shape and color better than most varieties. It seems to succeed in all kinds of soils.

Our growers are progressive and have tested hundreds of varieties and are testing new varieties every year. Some have promised well for a season or two, but have developed some fault or deficiency and have been discarded. The tombstones in the strawberry graveyard contain many high-sounding names, bestowed upon varieties which were, in the estimation of their originators, destined to revolutionize strawberry growing. The catalogues of strawberry specialists contain every season long lists of new berries which are generally sold at the modest price of $2 per dozen, and after a year or two of trial are discarded and forgotten. A few varieties do well in certain favorable localities. "Cinderella," the great Watsonville berry, was tried here when first introduced, but did not take kindly to our soil or climate and was discarded. "Triumph de Gand," so long a favorite with Sacramento growers, was well regarded by our growers for a few seasons, but has not been grown here for years. "Captain Jack" was perhaps one of the most productive berries ever grown in this section, and was grown to a considerable extent for a short time, but was too small for the requirements of our markets. There have been innumerable varieties tested here, some filling every requirement for a home variety; others have possessed merit, but few others than those named have ever been regarded as of value for market.

Points on Culture.—I do not lay down any unyielding rules which must be followed to secure success. The distance between the rows and between the plants in the row must be governed by the method it is proposed to use in cultivating them. Some growers use the hoe entirely; others the cultivator between the rows, hoeing between the plants; both methods are successful. The main requisite is to keep the ground free from weeds and well irrigated. Many failures of strawberry crops occur through a failure to turn on the water early enough in the spring. Do not depend on late rains in the spring, but soak them thoroughly whenever they need water.

In planting new beds, secure good strong plants; it pays to do so. Shorten the roots one-half and plant any time during season. Of course, in summer planting water must be freely used, but the plants grow rapidly when once started.

In picking, see that the pickers are careful not to bruise the berries. Do not handle the berries any more than is necessary. Try to get pickers who can be trusted to pick directly into the baskets in which they go to market. Do not let the big berries all crowd to the top of the baskets. Put them in as they come. The dealer likes to tell his customers that the berries he handles are the same on the bottom as they are on the top.

There will always be a market here for all the strictly first-class shipping berries we are likely to produce. I do not think our shippers have ever had a surfeit of A No. 1 Dollar berries. There is no berry so popular in the market as the strawberry.

Discussion.—Mr. Sherman stated that, by careful use of nitrate of soda, the Capt. Jack reaches marketable size.

Mr. Sisley accomplished the same result by the use of goat manure, applying it in a furrow alongside the rows in the winter time. Mr. Wilson also approved goat manure for strawberries.

The Late James Shinn.

A name which has an enduring place in the horticultural history of California is that of James Shinn, who died on his farm near Niles, Alameda county, Thursday, October 29, in his ninetieth year. Mr. Shinn was so widely known among the older readers of the RURAL PRESS, and was so highly esteemed for his horticultural work and for the worth and graces of his character, that we are sure a sketch of his life will be welcomed in RURAL circles.

James Shinn was born September 29, 1807, in Salem, Ohio. He was of Quaker stock and his father and grandfather were among those of the Quaker faith who went out from Mt. Holly, N. J., in 1802 to establish a colony in the forests of southeastern Ohio. The Shinns were of old English Quaker stock, and the first of the name to come to America was one of the forty who obtained the grant of the New Jersey colony from the English crown. The family was among the early followers of William Penn, and there are more of the name now in Pennsylvania and New Jersey than in all the rest of the United States together.

James Shinn was first married in 1828 to Mary Sebrel, who died in 1845, leaving him several children, of whom one survives, Mrs. Livingstone Mays, of Round Rock, Texas. He was married again in 1846 in Platteville, Wisconsin, to Lucy Ellen Clark, who survives him, as also do three of their children: Charles H., Joseph C. and Millicent W. Shinn.

In his youth James Shinn attended such schools as were to be found in the second decade of the century in southern Ohio. At the age of twelve he was left an orphan and during the following years supported himself in various outdoor occupations, until, at the age of twenty years, he began to teach school. From 1837 to 1856 he lived in various places in Ohio, Illinois, Wisconsin, Iowa, Tennessee and Texas, alternately occupied in farming, merchandising and school teaching, but always preferring the farmer's life and returning to it whenever feasible. In this wandering life he had opportunities for wide observation and study, which gave him that breadth of view and possession of information which prepared him for his successful and creditable career in California.

Mr. Shinn came to California in 1856, where members of his wife's family had preceded him, and located near Niles the farm upon which he lived continuously the remaining forty years of his life. He was always prominent in social and political affairs, and was respected in all these relations. The phase of his life which was best known to Californians generally was his horticultural interest and work. He had always been a strong lover of plants, and, recognizing the favoring conditions in his new California home, he entered at once upon fruit and plant lines, and won immediate recognition. He introduced standard sorts and novelties from all sources, and early in the sixties had probably the largest collection of fruits in bearing then in California, and he won innumerable awards at the fairs of those days. In his nursery work he introduced many new varieties, but modestly refused to place his name upon any. He spent much time and care upon his nursery catalogues, which were models of accuracy, and were in their time the equal of any published in the country.

Mr. Shinn was one of the organizers of the State Horticultural Society in 1878, and prominent in its affairs almost up to the close of his life. He was a vigorous and able writer upon horticultural and public affairs, and in the early days of our fruit growing his carefully written statements were of wide value.

A Lame Horse.

TO THE EDITOR:—I have a horse that is stiff in the shoulders and think it was caused by overheating and being cooled off too suddenly. There is no fever in either the feet, legs, chest or shoulder; he is willing to move, but limps when trotting. Will you please answer through the RURAL PRESS?

Brentwood. E. R. FREY.

ANSWER BY DR. CREELEY.

These symptoms are not definite enough. Mr. Frey says the horse is stiff, then lame. I can not tell by the symptoms how long he has been lame. Did he go lame while being driven, or was he put in stable apparently all right and found lame when taken out in the morning? If driven, does he get worse or better at end of drive, and how does he seem next morning? Is he as bad on one leg as the other? Take the shoes off, cut the feet out clean and try with pinchers for signs of soreness. If none, it will not hurt to poultice and put cold water bandages around the tops of feet and ankles until I hear from you again. Examine the back tendons for thickness and signs of sprains and the cannon bone for signs of splint, etc. DR. CREELEY.

405 Golden Gate avenue, S. F.

Convalescence of Sergeant Barwick.

Readers of the RURAL who have known of Sergt. J. A. Barwick's long and devoted service to meteorological progress in California will be glad to hear that he is rapidly recovering from a serious illness of ten months' duration. He had to undergo an attack of nervous prostration induced by his long term of exhausting work, but rest and change of scene have happily restored him so that he will soon resume his old duties at the State Capitol.

Patrons of Husbandry.

From American River.

Worthy District Lecturer Thomas Waite writes under date of the 6th inst., reporting the recent anniversary meeting of the American River Grange: "The attendance was quite large, including representatives from several outside Granges, and it was from start to finish an occasion of special enthusiasm. Under the leadership of Worthy Master Cornell, the ritualistic work was performed without a mistake—a very rare proceeding, indeed. The District Lecturer, being called upon, dwelt at some length upon the achievements of the Grange of New Hampshire, concluding with an eulogy of the educational character of the Order. Brother Louder of Sacramento Grange responded in a neat speech, as also did Brother E. Greer of Sacramento. A harvest feast provided by the sisters was all that could be desired. Shortly after the feast Worthy Overseer Beecher of the State Grange arrived somewhat late, but in time to make a handsome response to an address of welcome to the visitors by Worthy Master Cornell. Other guests also spoke in response to the Worthy Master's greeting. This was followed by a discussion on the part of the District Lecturer in support of woman suffrage, in which he was joined by Brothers Greer and Laurenson. The exercises of the day wound up in a dance, which was largely attended. American River Grange always succeeds with whatever it undertakes, and special credit for the occasion under report is due to Brothers and Sisters Laurenson, Buswell and Bryant, whose efforts were cordially seconded by many others."

Tulare Grange.

Tulare Grange sends greeting to the official organ, and desires to let the Order know we are still on guard, working in the line of duty for the good of the Order, for the good of society and for the welfare of humanity.

Tulare Grange held its regular semi-monthly session at its hall in Tulare on Saturday forenoon. After the transaction of the usual routine business of the Grange, the Worthy Master appointed the sisters present a committee to prepare the necessary arrangements and programme for the Thanksgiving dinner, which it was determined on having at the last meeting of the Grange. The Grange and Thanksgiving Day being both essentially American institutions, it is peculiarly fit that the Grange should pay especial attention to Thanksgiving Day. Tulare Grange always has done so. From the spirit and energy with which the sisters have commenced their work, a good dinner and a pleasant social time will undoubtedly be had. It will be confined to the members and their families and a few of their immediate friends, eligible and likely to become members of our Order.

Bro. C. J. Berry, from Committee on Good Roads, reported progress. The Grange will, during the coming season, renew its exertions in favor of good roads. There being two new members elected to the Board of Supervisors of this county, it is expected a better system of road making and repairing will be introduced and better roads will result.

Bro. Tuohy read a communication from the Sacramento County Good Roads League urging the organization of Good Roads Leagues in every county in the State and the co-operation of every Grange and of all wheelmen, physicians, stablemen, societies for the prevention of cruelty to animals and all driving associations in California, the present being deemed a favorable time to co-operate with the State Bureau of Highways.

An application to Bro. Edward F. Adams of Wrights, Institute Organizer of the University of California, was signed by the members present, asking that a Farmers' Institute be held in Tulare during the month of February, it being the opinion that farmers and orchardists would, during that month, be through the rush of their work and would give undivided attention and attendance to the Institute. A two days' Institute is asked for commencing on the Wednesday on or before the full moon. The Committee on Programme and Arrangements are not yet named.

The Patron of the U. S. Experiment Station at this place reported that Prof. A. L. Emery, late of the College of Agriculture, Berkeley, has been appointed superintendent of the station and had assumed his duties.

On the Patron's visit to the station lately he was informed by the superintendent that, by an order of the Board of Regents, he is directed to allow no one to take fruit, seed or cuttings from the grounds of the station. All persons desiring such, or any information as to the work of the station, are to apply to the superintendent for the same. Where cuttings, seed, fruits or plants are asked for, the superintendent will, if the same can be spared from the station, supply them; but it will be very much better if persons desiring such from the station first apply to Prof. E. W. Hilgard, Chief of the College of Agriculture at Berkeley, for orders for them on the superintendent at Tulare. The station has many useful seeds, plants, cuttings and roots for distribution. They are for *free distribution only*, so it is very desirable they should be generally tested, and Prof. Hilgard is anxious to have competent and interested students of agriculture take them, make careful tests of the same and report results to him, from which he can draw deductions. The Patron of the station considers this order of the regents, prohibiting any but the superintendent of the station or some one under his direction from handling or taking any specimens, strictly business and essential to the care and good management of the station. No fair-minded person should find fault or quarrel therewith.

Perhaps your readers are not interested in knowing, nevertheless I will here add, that, during the last days of October, we had nearly an inch of rain—enough to put the ground in fine condition for plowing. Many plows are now at work, and farmers are much encouraged both as to prospects for crops and prospects for prices. J. T.

From Yuba City.

Yuba City Grange held its monthly meeting at the residence of J. J. Pratt, in Yuba City. It was decided to accept the offer made by Mr. Pratt, who is superintendent of the Sutter Canning and Packing Co. to meet in the cannery during the winter months, and the next meeting will be held there on Dec. 5th, commencing at 1:30 P. M. It was thought, that while the meetings at private residences were very pleasant occasions, it was not best for the good of the Grange, to continue them through the winter, and as this Grange has always exercised more or less influence on local affairs, it is deemed the wiser course, not to let it go out of existence.

The ladies of our county, as well as many of the citizens are jubilant over the defeat of the candidate for Superior Judge known to be be in the interest of liquor and the election of Judge E. A. Davis, a man of sterling honor and pure personal character.

The question of repeal of the prohibition ordinance of Sutter county was submitted to the people and was defeated overwhelmingly. YOURS TRULY.

Yuba City, Cal., Nov. 7th, 1896.

The Proceedings Will Soon Be Ready.

Worthy Secretary Mills informs us that the work of printing the proceedings of the State Grange is well in hand and that the books will be ready for distribution at an early date. Advance proof sheets, which he has kindly forwarded to the editor, show that the book will be in its usual neat and complete form. The work of compilation has been particularly well done.

The Sonoma County Granges, so we are informed by Secretary Mills, are going to take an active part in making the Farmers' Institute and Farmers' Festival at Santa Rosa a success.

En Route to National Grange.

A note from the Worthy Master of the State Grange, written on the train, informing the editor that he (the Master) started from Sacramento with his wife on the 4th inst. They go direct to Washington where their address will be National Hotel. It was Mr. Greer's original plan to go by way of Oregon and the Northern Pacific, and his change to the Central route was due no doubt to pressure for time. He fully understands the advantage of being early on the ground and getting into the right personal relations before the formal sessions begin.

AGRICULTURAL SCIENCE.

Economy in Fertilization.

By E. W. Hilgard, Director of University Experiment Stations.

Numerous inquiries regarding the necessity or expediency of potash fertilization in this State, and the fact that active misrepresentation of my views and teaching in the premises has been made by interested parties, render it expedient that these views should be briefly formulated in print for the benefit of persons interested.

What the Plant Needs.—It is an elementary fact, pretty generally understood, that, strictly speaking, *all* substances used by plants for building up their tissues are of equal importance; in so far as in the entire absence of any one of them, plant development cannot occur at all. But it is universally known and admitted that all but three or four of these are present in ordinary soils in sufficient amounts and in an available condition for the purposes of plant growth.. The only ingredients usually required to be replaced by the use of fertilizers are potash, phosphoric acid, nitrogen and lime. Any fertilizer containing all of these may be considered "complete," and, when supplied after each crop in the same amount and in the same proportion as has been finally withdrawn by the sale of the crop, soil exhaustion can be indefinitely prevented and fertility perpetuated. The only question, then, about which there can be any discussion is: *whether in every case the use of all the four substances is really necessary*, or whether one or more can, for the time at least, be omitted. This question arises most obviously with reference to the great differences existing in the kind and amount of draft made by different crops on the soil. Thus, root crops withdraw very large amounts of potash from the soil, while drawing but lightly upon phosphoric acid and nitrogen; on the other hand, cereal crops are known to bear very heavily on phosphoric acid and nitrogen, while taking up a comparatively small amount of potash only. These facts form the main basis of the utility of rotation of crops; and the same principle is recognized in the practical fertilization of the root crops with fertilizers that include chiefly potash, while for grain a combination of nitrogen and phosphoric acid is usually given and found most profitable.

Supplying Deficiencies.—The reason why in many cases the return of one or two of these fertilizing ingredients can be omitted from the replacement is that the soil itself frequently contains a larger proportion of one or several of these same ingredients in a form available to plants; that, moreover, these ingredients, usually occurring in the soil chiefly in a difficult soluble condition, are gradually set free by the "fallowing" action of the atmosphere from their insoluble combinations, so as to become available to plants; and that if the soil is naturally rich in one or more of these ingredients, the return of such ingredient may be omitted, either after a fallow or after a crop that has drawn but lightly upon it. Thus, after a root crop phosphoric acid may usually be omitted from fertilization, if the soil is known to be (naturally or artificially) rich in phosphoric acid; and the same, of course, is true of potash and nitrogen in other cases. In so doing the husbandman draws upon the natural resources of the land, availing himself of the advantages of a rich soil; but those who cultivate soils naturally poor may be compelled to return in every case each one of the three or four ingredients needed for and commonly used in fertilization.

Wasteful Practice.—Were the immediate return of *everything* that the crop takes away necessary on *every* soil, the possessor of rich land would have no advantage over the owner of poor land, for as soon as the first flush of fertility is exhausted in the virgin soil, both would be equally obliged to supply the full amount of ingredients withdrawn from the soil by each crop. But the experience of centuries has shown that such integral replacement is altogether unneccessary on very many lands, and, as a result, the use of a "complete" fertilizer is in Europe a rare exception, save as regards stable manure. Farmers buy the individual ingredients as furnished in commerce, according to the supposed requirements of the land, as deduced either from its previous history or from the known richness of the soil in either one or the other ingredient in question.

Complete Fertilizers.—In the United States the habit of purchasing everything "ready made" prevails to an unusual extent, and fertilizer manufacturers mostly cater to this demand by supplying "complete fertilizers," compounded in accordance with the known requirements for certain crops, therefore *on the supposition that the soil supplies nothing of itself.* In purchasing these complete fertilizers the farmer is, therefore, likely to pay for one or perhaps two ingredients which the soil may not require at all to produce the most profitable crops, when his money would be probably much better spent in procuring a larger amount of one substance specially needed. The enormous waste of money thus incurred is now so well recognized in Europe that the manufacture and sale of mixed fertilizers has been almost completely superseded by that of the simples themselves. The farmer buys superphosphate, potash salts or nitrogenous fertilizers separately, in accordance with a rational understanding of the requirements of his land, more particularly with reference to the nature of the preceding crop, the amount and the kind of draft made on the land and the character of the latter.

That this is the only rational and economical mode of using commercial fertilizers is indisputable; it is only in the case of stable manure itself that the farmer is compelled to use all the ingredients indiscriminately. The farmer who, either from lack of knowledge or inertness, spends his money for "compete" fertilizers, a part of which he may not need at all, need not be surprised if the increase of crop resulting from their application does not yield adequate returns for the outlay incurred. The fertilizer manufacturer naturally desires to sell his wares and is not specially interested in reducing the farmer's expenditures therefor.

California Soils.—As regards the soils of this State experience has shown that an unusually large proportion of them remain profitably productive without fertilization for a considerable length of time, and that when virgin soils, or such as have been under cultivation for a short series of years only, fail to produce satisfactory crops, it is usually due to other defects than lack of fertility, requiring to be supplemented by fertilization. Even in the East it takes from seven to thirty years to reduce the production of "fresh" soils below profitableness, and the nature of the crops grown being known, it is not difficult to determine what ingredient or ingredients are most urgently required to restore production.

A simple leaching with water shows many of our valley soils to contain, *in water-soluble condition*, a large proportion of *potash* salts, so as to render the idea of supplying more of the same substance simply absurd. Thus, the ten-acre experimental tract near Chino contains per acre an average of over 1200 pounds of water-soluble potash in the first 3 feet, equivalent to the amount required for eight 20-ton crops of sugar beets, without drawing on the less soluble but much more copious soil store. Similar cases are common in other valley regions of the State. These facts speak for themselves.

Equally simple tests show that in the great majority, probably at least three-fourths, of the soils of the State, *lime* is so abundant that it need not be supplied for centuries to come at least. These facts are easily ascertainable by anyone having even a superficial knowledge of chemistry.

But more elaborate investigation and analysis show that, while both lime and potash are present in unusually large proportion, as compared with soils east of the Mississippi and in Europe, phosphoric acid and nitrogen are, on the contrary, as a rule, present in small amounts, and likely to become deficient in a short time under exhaustive cultivation.

What to Use First.—Upon these plain and simple facts is based my recommendation to California farmers that, whenever production of their land becomes unsatisfactory, they should try any large-scale fertilization first with phosphates and nitrogen, and, should this not prove fully satisfactory, then with potash also; this being the order in which these substances are likely to become deficient in most of our soils under cultivation.

In the course of time potash fertilization will become widely necessary in this State, also; but it is certainly not among the first things generally required, as is actually the case in the East and in Europe. Under continuous heavy cropping with root crops, such as beets, potatoes or artichokes, or small fruits such as strawberries, potash fertilization has already, as a matter of fact, become necessary at some points and will gradually become more so. On the gray soils of the foothills of Amador and Placer counties we have found it necessary from the very outset, these soils being as poor in potash as Eastern lands. The same is true of some of the sandy lands of the interior.

My advice to the farmers of California is and has been simply that, in order not to waste their money for the purchase of ingredients probably not necessary, they should begin by supplying those most likely to be required at the time, and to turn to the use of potash fertilizers only after they have found the effect of phosphatic and nitrogenous ones to be unsatisfactory.

The efforts of those interested in selling as much as possible of their manufactured products are, quite naturally, in opposition to this policy; but the advice of the interested party is not usually the one most likely to benefit the taker.

How to Make Experiments.—Plot experiments made with different fertilizers must, in order to be of definite value, be made on a sufficiently large scale to eliminate the source of error arising from local differences in soil and subsoil, and must be *checked* by several check plots so interposed between the others as to not only check them by direct comparison, and to prevent the washing of fertilizers from one fertilized plot to another, but must also be compared, first of all, among themselves, so as to determine what is the normal product of the unfertilized land. It will frequently be found that these unfertilized check plots differ more widely between themselves than do the fertilized ones from them or from each other. It usually takes several seasons to come to definite results.

A question wholly aside from those discussed above is that of the special modification of crops by the use of a surplus of certain substances known to produce a specific effect. Thus, common salt is known to make asparagus and some other vegetables more succulent and tender; nitrogenous matter increases the size and succulence of fruits, and some experiments made with potash fertilizers on oranges point to an increase of sweetness thereby. It is then simply a question whether or not purchasers appreciate such modifications sufficiently to render their attainment a profitable undertaking, apart from any increase of the crop or the maintenance of soil fertility.

HORTICULTURE.

Barrel Culture of Strawberries.

It is several years since it was first proposed to grow strawberries by means of plants set in holes bored in a barrel which was filled with rich soil. It seems by recent accounts that the method is being quite largely followed for family use in Eastern towns, and it may be very useful indeed in California, where the sun may be too hot for the summer thrift of the plants, or where the water for an ordinary strawberry bed may be difficult to secure. A correspondent of the *Country Gentleman* gives an account of how to do it; also an intimation of how common the practice is becoming.

The Strawberry Barrel.—Any strongly-bound hardwood barrel will do, but a linseed oil barrel is preferable. A kerosene oil barrel is liable to impart some of the kerosene taste to the fruit, but perhaps this might be avoided by burning out the barrel before using it. Lay off the outside of the barrel in 4-inch squares, as you would mark a checker board. Begin at the bottom of the barrel and bore a row of inch holes in each square horizontally around the barrel. In this way bore five rows of holes around the barrel, 8 inches apart, or in each alternate row of squares, boring the second row of holes from the bottom on the perpendicular lines instead of in the squares, and so on alternately to the top. Five rows of holes, with twenty-seven in a row, will give you one hundred and thirty-five plants to the barrel. The barrel is filled with soil level with the first row of holes, using rich garden soil with a little well-rotted stable manure thoroughly mixed with it.

Suitable Plants.—Ordinary bedded plants may be used, of any variety desired, mixing the pistillates and bisexuals, as in garden culture. The Sharpless, with a small mixture of Crescents, give very large berries when grown in this way; also the Bubach and Marshall. But for quality of fruit I have found none better than the Cumberland Triumph and the old Charles Downing. The latter two are bisexual, and need no other varieties to fertilize them. Any other varieties well adapted to the local climate will do. The plants are inserted through the holes, with the roots a little higher than the stems, to allow for settling. The roots are well spread apart, and more soil is put in and firmly packed over them. Then they are sprinkled with water, and the process continued until the barrel is filled, when it is covered to prevent escape of moisture.

Treatment.—In watering, care should be taken not to keep the soil too wet, and the better way is to make a few holes down through the barrel with a stick, and pour in water or liquid manure, according to the needs of the plant.

It is well to set the barrel on a box, or something to elevate it from the ground, to prevent insects from getting to the berries, and also occasionally to sprinkle the foliage on the outside of the barrel.

The advantages of this method of growing strawberries are that no runners grow, and the whole strength of the plant is directed to growing fruit. The berries are perfectly clean, and all cultivation and weeding are dispensed with and economy of space secured. If the same number of plants were spread out as in garden culture, they would occupy nearly a square rod of ground.

The plants may be put in either in the spring or fall. If in August or September, they will yield a fair crop the next year, and will continue in bearing four or five years without renewal. Five bushels is the maximum crop, and perhaps three or four the average to a barrel, but the yield will depend on the variety and management.

The barrel should be placed with a good exposure to the sun when convenient, but the berries will do fairly well in a partial shade. In the winter, in localities where there is very low temperature, a light covering of straw should be thrown over the barrel. I have recently met a gentleman who, in connection with his nursery business, has been selling barrels furnished with plants to people for eight years, and has sold more than 1000 in New York

State, many of them in Brooklyn, and he says there is no doubt about the success of the plan.

Another feature of the barrel culture of strawberries is the ornamental. When the plants are in full growth the foliage completely covers the barrel, and when in blossom present the appearance of a huge bouquet, and make a very pretty ornament for the lawn.

THE POULTRY YARD.

Further on the Training of Turkey Sitters.

Last week we gave an interesting outline of French practice in training hen turkeys to act as incubators. Not less interesting is a sketch of American practice in the same direction, as given to the *Rural New Yorker* by Samuel Cushman, a well-known Rhode Island turkeyist. He says he tried it last spring and it was a complete success.

Mr. Cushman's Method.—But one young turkey was set, and as it was before the flock had laid, she, probably, had never laid an egg. Not then knowing that the use of spirits was not necessary, I did as this writer advises for three days. On the fourth day, the nest was uncovered and the hen allowed to go on and off as she chose. She kept closely to the nest, and soon after eleven goose eggs were put under her; three of these were afterward tested out. At the proper time six goslings were hatched and safely removed, while she continued to sit. The nest was within a slatted front shed, so the turkey was under control when off the nest. Here she was very mild and submissive, although as wild as any domestic turkey when out in the field.

How a Prohibitionist Did It.—Mr. W. Enos Stevenson, Seary, Ark., wrote in May, 1896: Take turkey hens, three to ten years old, treat them kindly so as to have them very tame, and they can be trained to sit at any time. In the winter make a nest in a barrel laid upon its side, or in a box of suitable size; heat six to ten china eggs so that they will be quite warm and put them in the nest about dark; put the hen on and hang an old gunny sack or quilt over the opening so as to darken the nest. Feed very lightly for three days. Any one can tell the third day whether the turkey is broody enough to give her the eggs for incubation. If she is, give her from twenty to thirty eggs, according to her size. No, sir! No corn juice or grape juice for the turkey! Prohibition has full sway here! Turkeys, with proper care, can be depended upon to hold the nest for ten weeks, but for best results they should not be made to work over six weeks. They are not good mothers for chicks on account of wandering too far away and not returning at night.

Another Case Without Spirits.—A Massachusetts operator gives this account: When I first read in an English poultry book of the French method of using turkeys to hatch and care for chickens I had no incubator, and concluded to try the plan. Late in the fall I sent out into the country and bought a late-hatched hen turkey for little money. In February we prepared a box, with plenty of chaff over a layer of horse manure, that could be shut up to exclude the light. We did not give either wine or whisky, but in two or three weeks she was sitting quietly on the china eggs, and when taken off the nest to be fed she would voluntarily return. I then filled the nest with hen eggs, removing them as soon as they began to pip, to keep the turkey from wanting to leave the nest, and put in other eggs. After sitting three months she was put in a yard with chickens for the rest of the summer. We put chickens of different ages with her, and she received them all with equal kindness. This year we had two turkeys besides an incubator, and after hatching three sittings of eggs we thought it best to take them off the nest; but one watched her chance and went back on the nest till I filled it with eggs again, so I let her stay. The other is laying and will be ready for work later, if needed. They make careful, patient mothers, are equal in that respect to any hen, and it is a wonder that farmers do not make more use of them than they do.

Turkeys and Capons for Rearing.—In some parts of France, where poultry breeding is carried on as a trade, they seldom allow a hen to lead the chickens after being hatched, as the hen is more valuable for laying eggs; but they intrust this office either to capons or turkeys, which are said to be far better protectors to the chickens than hens. They require, however, a certain amount of schooling preparatory to being intrusted with their charge, which consists in this: When a turkey has been hatching for some months and shows a disposition to leave off, a glassful of wine is given her in the evening, and a number of chickens substituted for the eggs. On waking in the morning she kindly takes to them and leads them about, strutting amid a troop of 75 to 100 chickens with the dignity of a drum major. When, however, a troop leader is required that has not been hatching, such as a capon or a turkey, then it is usual to pluck some of the feathers from the breast, give it a glassful of wine, and, while in a state of inebriation, to place some chickens under it. On getting sober the next morning it feels that some sudden change has come over it, and as the denuded part is kept warm by the chickens, it also takes kindly to them.

Rearing Black Minorcas.

As the Black Minorcas are duly popular in California, the practice of a leading breeder in feeding and rearing chicks of this breed is pertinent. He gives his method with the object in view of developing the bird into a healthful and natural maturity without the use of stimulants or stimulating food. Birds thus reared will be fit for exhibition or breeding purposes. But if egg production is the sole object stimulating food may be fed with profit, although birds of this sort are less fit for breeding purposes.

The Infants.—After leaving the shell, if hatched in an incubator, the chicks remain in the machine usually thirty-six hours without food. This allows them to dry off nicely and give them more strength than they would have if removed sooner. If hatched under the hen they should be left with the mother in the nest as long as is safe to do so. Care should be taken that the hen does not become restless and anxious to leave her nest with the brood, in which event she might trample some of them to death.

Baby Food.—The first feed the chicks get consists of pinhead oatmeal moistened with sweet milk and a raw egg; also give them all the sweet milk they will take. I know of nothing better for growing chicks than plenty of sweet milk. After giving them just the amount of soft food they will eat up clean, it is a good plan to throw in the litter a little millet seed or pinhead oatmeal dry. This will give them the exercise necessary to produce good digestion. Very young chicks should be fed about every two hours. The first two weeks of their existence is the critical period of their lives. If the best results are to be had the chicks must be kept growing without any drawbacks. I should have mentioned before that on taking the hen and brood from the nest all should be greased, whether there are any lice in sight or not, as "appearances are often deceitful." If the chicks do not have their liberty and free access to the fields where they can pick up insects, etc., give them a little raw meat two or three times a week. This bill of fare is kept up for ten days or two weeks, when whole wheat is thrown in litter occasionally until they get so they will eat it up readily, when the wheat becomes the principal article of diet, with an occasional soft food. After the chicks have reached the age of one month nothing can be more beneficial than unlimited range and plenty of good, wholesome grain, such as wheat, corn and oats.

Later Treatment.—As soon as the cockerels become troublesome to the pullets they should be separated and kept in lots of not more than twenty-five. For this purpose roosting coops, with wire or slatted fronts, can be made. They should be so constructed that minks, skunks, rats, etc., cannot get in at night.

Chicks that are reared by means of the hen should be taken from her as soon as practicable, as I believe twists in the comb are sometimes caused by nestling under the mother; also twists are made by causing them to huddle together in coops at night when they should be on roots.

After the chicks have attained the age of six to eight weeks, let me repeat, there is nothing that will produce finer birds than plenty of range, good sound grain and pure water.

Common Sense in the Chicken Coop.

To the Editor:—Action without judgment is no less dangerous in the management of a chicken coop than that of the stable or the family. To the sorrow of several hundred chickens, this fact was made clear to me last winter. Tommy Wise had come West to spread his knowledge on nature and its connection with chickens on the street corners and between strokes on his blacksmith's anvil, and the village took fire as if all such knowledge lodged in Tommy. Chickens, to be healthy, he said, must roost in trees, and, though no ailing chickens were to be found, Tommy's advice must be followed for their future healths' sake. Then young and old were alike driven from their cozy coops to roost or huddle together wherever they could in the open air, rain and wind. What *all* believe is true (?), so a week later a few hundred more were driven from their smooth, flat-topped and horizontally-placed perches and given a thin stem of a tree bristling with sticks, pointing more to the zenith than to the horizon. The chickens tried in vain to get a balance on them, but that was not noticed. There was the tree, and it, in spite of the coop's roof, was at least a compromise with Tommy's wisdom. The nights were made hideous by crying chickens; but that, too, was nature, and the villagers rubbed their eyes and yawned and declared that Tommy was right.

Then something unlooked for happened: The hens got the gapes and the roosters the wheezes, and the laying hens quit laying or dropped their eggs shellless and then ate them. The weather was bad, Tommy confessed, and all these things belonged to nature. In their due time good warm days and stormless nights would come and bring with them baskets full of eggs. Then a bold old man, always known for his contrariness, said, impatiently: "Give the chickens their former coops and comfortable flat perches, but first see to it that the last stick of timber in each is well soaked in whitewash to kill the mites or keep them off." All gave him a look of disapproval, and his wife flew into a rage at the idea of his wanting to manage her poultry yard after her forty years' of lone rule. All argued that the remedy was too old and must, with herb teas, become extinct in this progressive age, whose enlightened people could suffer only new ideas.

Tommy had these winning qualities: a loud voice and a confident, insinuating air, and all were flattered by his lordly presence and believed him infallible on the chicken question. Sore eyes and croup were added to the chicken plagues that raged. Many died. Few were fit to eat. It was one egg or none at breakfast for the egg-hungry head of the family. Dead chickens nausuated the air and no one could sleep for noise. "Epidemics," said Tommy; "all nature—pure nature, sir."

Then the disagreeable old man began to growl about nature being unnecessary in the management of Tommy Wise and his horse. "There goes your lordship," said he, "in shining new coat, behind a horse with shoes on that nature didn't put there. He can afford to ride about and show himself and boast the best rig in the village, since his popularity as a chicken doctor has brought prosperity to his shop and two workmen that don't take time to talk. Besides shoes, too, that horse o' his'n carries a bobbed tail—may be, in respect for the witches that chased Tam O'Shanter."

But the disagreeable man was alone—his audience left him in disgust at the beginning of his speech.

D. M.

THE SWINE YARD.

Cutting and Curing Pork.

It is seasonable to talk of hog killing and the curing of the many fragrant and delicious pork products. We are sorry more Californians do not have this in prospect instead of buying Eastern ham, bacon and pork at the stores, and undoubtedly they will have more of it to do as the years go on.

Cutting Up.—After killing and dressing, and allowing the carcass to hang until the animal heat is all gone, commence cutting up. Cut off the head just behind the ears. If cut in the right place, the head can easily be twisted off. Cut off the feet an inch or a little more below the hocks; then cut down the middle of the backbone, lay the two sides flat and take out the lard, beginning at the kidney. It is not a bad plan to take out the lard while the pigs are hanging, and before they are quite set. Cut off the ham, cutting with a sloping cut. Trim them neatly; the trimmings will all come in for sausage meat, and be more profitable than if ugly corners are left on, which are also wasted when once cured on the hams. Next cut off the shoulder behind the shoulder blade. Trim shoulders after taking out rib bones. Take back and rib bones out of sides, unless in case of light-weight hogs, when it is better to take out back bone only, leaving ribs in. To take out ribs, keep the knife as near the bones as possible. This may be awkward at first, but experience will teach. Do not leave any more gashes in the flitches than can be helped, as they cause rust and waste. Cut the heads down the center between the ears, and cut off jowls in slanting direction just under ears to mouth, which will leave top of head wedge-shaped. Put the jowls to stand over night in salt and water, and shoulders, if bloody.

Dry Salting.—Rub about a dessertspoonful of saltpeter on the flesh side of ham weighing from fifteen to sixteen pounds. Take coarse salt, and rub in what you can. Sprinkle a layer of salt in bottom of tank or tub, which should be tight, and place the ham skin side down, then sprinkle on more salt. Continue this operation till all the pieces have been done in the same way. Always put hams and shoulders at bottom, as they, being thickest, will cure better if allowed to lie in liquor which drains from the meat. The meat will require to be gone over at least once a week, using more salt as required. Time—150-pound hog, four weeks; 250-pound hog, five to six weeks.

Sugar Curing.—If you can procure molasses, not sorghum, use that. Moist brown sugar is good, but most of that obtainable at country stores is too dry. After rubbing on the saltpeter as for dry salting, rub on the molasses or sugar, then the salt. Use about six pounds of sugar or its equivalent in molasses to 150 pounds of pork. This is better rubbed and turned every two days. Do not use quite as much salt as for salting alone. Time same as for dry

salting. When cured, take out; wash with warm water so as to get all salt that may be sticking to the meat, and hang up to dry; or, if to be smoked, hang in the smoke-house at once, and commence smoking before it dries much.

To Pickle.—Use two ounces saltpeter, two pounds sugar, six pounds salt to two gallons of water; let come to boil, and skim as long as scum rises. Pour on the meat when cold after drawing blood from parts that require it. Pack tightly in barrels and fill up with pickle. This will take same time to dry as dry salting, and meat can be smoked and hung up in the usual way. Not recommended for heavy pork.

To Smoke.—To smoke bacon, have a tight building, preferably with stone or brick foundation. Make as much smoke from as small a fire as possible; keep it continuous for about ten days. Oak blocks and sawdust are good.

FLORIST AND GARDENER.

An Arizona Cactus Garden.

An effort has been made during the past three years to bring together on the grounds of the University of Arizona all species of Cacti indigenous to the United States. This garden is, as yet, far from complete; nevertheless we now have some three hundred and fifty specimens representing more than a hundred species. The greater number of these plants have bloomed and produced fruit during the past year. Recently, quite a number of Mexican species have been added to this garden, but under our present circumstances it is not possible to grow plants which will not withstand our winter climate. In this connection I might state that we find such Mexican species as Anhalonium prismaticum, Lem., Echinocactus myriostigma, Salm., and E. ingens, Zucc., perfectly hardy at Tucson. Out of twenty-three Mexican plants of the genera Cereus and Mamillaria only half a dozen survived the frosts of last winter, while of fourteen species of Echinocactus not a single specimen was badly injured, although some of the latter have a much more southern range than the former.

The garden occupies a large triangular plot directly in front of the main University building. When plants are received they are set out in this garden, where they require little attention other than that which nature gives them. So far as possible, specimens are obtained directly from the localities in which they grow; usually a half dozen or more plants of the species, showing as great variation as may be found. Plants obtained from dealers have, as a rule, been small and otherwise unsatisfactory when compared with those collected in the field.

The difficulties encountered in studying these plants from skeletons and dried flowers and fruits are very great, as may be noted from the unsatisfactory work that most of our recent authors on this group have given us as a result of their labor. The growing in the greenhouses under an environment so entirely different from that which surrounds them in their general habitat and the publication of the results of their study is even more unsatisfactory. The founding of species on such plants, showing all the striking variations which they take on when grown in moist places, under unnatural conditions, has left us as a heritage a synonymy which it is absolutely hopeless to attempt to untangle. Our only hope of getting a correct understanding of these plants is by studying them in the field and bringing them together and growing them under conditions conforming as nearly as may be to their natural environment. The variations encountered even under normal conditions are such that one is bewildered by the multiplicity of forms representative of a single species. Not only are specific characters poorly defined, but generic ones, as yet, have not been drawn with any degree of satisfaction. Although the spine characters are fairly constant in many species, in others no dependence whatever can be placed upon them.

In this garden not only are records kept of the flowers and fruit characters of each species, but herbarium specimens are made, and photographs, from one-half to two-thirds natural size, are taken of flowering and fruiting branches, or of the entire plant if not too large.

An interesting species of Cylindropuntia grows in considerable abundance about five miles east of Tucson, but, so far as known, only in this one locality. It seems to be nearest related to Opuntia Thurberi, Engelm, but differs from that plant, so far as one can judge from the incomplete description and examination of type material in the Engelmann herbarium, in its longer, more strongly deflexed spines, smaller and different-colored flowers, etc. It may be known from all related species by its bright scarlet fruit, four strongly deflexed spines and peculiar cork-like margin to the seeds. This plant and O. leptocaulis are the only Opuntias with which I am familiar that produce small lateral branches no larger than fully developed fruits, the function of which seems to be to drop to the ground and develop into new plants. The fruit matures in December, but remains attached to the plant until the following May. It has an agreeable acid flavor and its bright color makes it very conspicuous against the green stems.—J. W. Toumey in Garden and Forest.

THE APIARY.

Watering Bees.

Although the points to be observed in watering bees may not be the same in California as in the wintry East, it cannot be doubted that many beekeepers in our arid regions are too careless about the water supply of the apiary.

At the recent convention of the North American Beekeepers' Association, this subject was considered at considerable length, and the following suggestions are interesting:

The Need of Water.—The necessity of water by the honey bees is to dissolve honey which sometimes becomes candied in the cells, and in brood-rearing they can make but little progress without an abundant supply of water. In early spring, when compelled to go long distances or to secure a supply from hydrants, tanks, brooks or drains, the losses will be beyond comprehension, and the careful apiarist is fully aware of the value of these little water-gatherers at this season of the year. He could well afford to lose four times their number a month or two later on. It is apparent that many cases of so-called spring dwindling is traceable to the want of water of the proper temperature supplied at convenient places in the apiary. The advantages of providing water for the bee is, first, to avoid the disease called thirst; second, when allowed to forage away from the apiary, they obtain oftentimes that which is impure and of so low a temperature that it is injurious to the delicate organism of the bee, and it becomes chilled and cannot return to the hive.

Have the Water Handy.—To obviate these difficulties, bring the water in close proximity to the colony in all its purity, and in a condition of temperature best suited to meet the requirements of the delicate form of the bee. Thus she may secure an abundant supply on making the shortest possible journey to and fro, and also at a temperature even warmer than the surrounding air. To accomplish this as effectually and cheaply as possible, use the one-half gallon fruit jar, removing the screw top and rubber (any tight vessel will answer equally as well), and taking an inch board from four to eight inches square (the size is immaterial); now with a small gauge or a common pocket knife cut a groove diagonally across the block nearly from one corner to the opposite one, taking care not to cut the groove quite to the corner. The center of this block may be cut out to suit your fancy, and may be turned if so desired, and you have an excellent and cheaply devised watering apparatus. Now fill the jar with water, placing the block over the mouth of the jar, invert the whole, and set in convenient places or desired points in the apiary. When the weather is so mild that the bee can fly in quest of water, the sun's rays shining upon the water through the inverted jar warms its contents quickly, and the bee gets a supply without being chilled or a failure to return with the much needed water or even a danger of wet feet. To avoid the difficulty of readily attracting the bee to its new watering place, slightly sweeten the water in these jars for a day or two, and everything will move on smoothly afterwards. During the height of brood rearing, and taking no note of evaporations, five well-stocked colonies will use the majority of one of these jars of water daily. Thus the careful, far-seeing apiarist will be able at once to see the importance of watering in the apiary, and also of lessening the flight to and fro, and assuring its purity and temperature best suited to the delicate organism of the honey bee.

Another Method.—I have always watered my bees, but I have a different plan. I have what we call a goose-neck hydrant. I use an old stove bottom, put in some hay or straw, and then set it under the hydrant and turn it on so that it will just drip. I then set it where the sun's rays can strike it, and it gets warmed up. This is the best plan for watering that I have ever tried. I am satisfied the only reason that I have never been troubled with spring dwindling of bees is the fact that I have always kept my bees watered. I notice that the bees prefer cool water. They have been seen in great numbers around the drippings from the ice-box instead of going to the hydrant. If the days are a little cool, they go to the hydrant all the time.

Must Have Water.—I was never so impressed with the fact that bees are no exception to the animate nature as I was last summer when crossing Valley county, Iowa. I found the bees at the pump; they were there in great numbers—hundreds of them—so we could hardly lead the stock there to drink. We went on farther and hitched. These bees went there and took possession of that water tub. I shall tell the gentleman to fix to water his bees. I believe they get thirsty and must drink.

CEREAL CROPS.

Barley Supplies and Consumption in Great Britain.

Since California barley has, during the last two or three years, taken rather a new course in the forms of shipment direct to British ports, our growers will naturally like to make a study of the supplies and uses of barley in the little island which has such a great appetite for foreign food supplies. The London *Farmer* of October 19th has a very interesting review of the subject. It begins by remarking that for some years past there have been one or two notable features of the import barley trade which deserve the serious attention of British farmers. Like every other product of the farm, there has been a greatly increased importation of this cereal of late years, this development being mainly brought about by the excessive quantity poured from Russia upon our markets. Prior to 1893 the importations of this cereal exhibited a fluctuating tendency, mainly in the direction of an increase. In that year, however, the returns showed an importation of nearly 23,000,000 cwt. of barley, which was, roughly speaking, an increase of 7,000,000 over the average of the three previous years. In 1894 still greater supplies were available, for the imports rose to 31,000,000 cwt.; but it fell to 23,500,000 cwt. last year. Statistics tracing the development of this trade show that in the three years beginning 1875 the average annual imports were only 11,261,000 cwt. It will therefore be seen by a comparison of averages, says the *Farmer*, that the extension of imports is bound to affect the barley growers of Great Britain very prejudicially.

British Feeders Take To Cheap Barley.—Looking a little more closely for the reason of this abnormal condition of affairs, we are confronted with the fact that owing to the effect of the drought of 1893, and the consequent scarcity of feeding stuffs, a large proportion of the increased imports was sold to stock feeders at pretty nominal prices. For instance, in 1894 the average price of Russian barley per quarter was 13s 1d. As already indicated, the increase was largely due to the copious resources of Russia. Of the total supply of Continental barley in 1875–77, Russia supplied 16.6 per cent. In 1884–86 this percentage had increased to 40.5 and in 1893–95 it reached the high figure of 59.6 of the total imports of barley from the Continent, so that the influence which the Russian crop must wield is very considerable. In the nine years reckoned between 1875 and 1883 the annual exports of barley from Germany to Great Britain were, with a single exception, never below 1,000,000 cwt., and in five of those years they fluctuated between 2,000,000 and 3,500,000 cwt., or from 15 to 30 per cent of the total importation from all countries. But Germany has fallen from her high estate, and only in three years since 1883 have the annual receipts from the Fatherland exceeded 1,000,000 cwt.

Other European Supply Regions.—France has fluctuated in a still more mercurial manner. In nine out of twelve years prior to 1887 the imports were over 1,000,000 cwt., but since 1886 they have only twice exceeded that quantity. On the other hand, they have sunk to seemingly insignificant proportions, the minimum being 178,000 cwt. Scandinavian barley has also shown a steadily decreasing tendency. Denmark contributes the bulk of this variety, exporting during the last six years from 158,000 cwt. to 676,000 cwt. annually. Sweden has dropped from a maximum of 600,000 cwt to 11,000 cwt. last year.

New Supply Regions.—Since several of the European countries which hitherto have contributed their full quota of the barley supply of Great Britain have almost dropped out of the list, others have signified their intention of competing more strongly for a share of the markets. Austria is one of these and she made a most creditable impression, as her barley sells at a better price than that produced in most other countries. Her supplies are not so significant in quantity as they are select in quality. Turkey and the Balkan States are the second chief source of supply. In 1882 the quantity reaching Great Britain from these countries was 5,720,000 cwt., but in 1893 it fell to 1,400,000 cwt. The United States and Chili have also entered the field more strongly than hitherto, but their supplies are only 4 or 5 per cent of the total imports.

Taking into consideration the large increase in the importations noted, it must be borne in mind that there was an apparent cause for the excessive supplies which found an outlet through the British markets. It must be observed, however, that although

this expansion has been limited to the trade of recent years, the increase has been diverted towards sources of cheaper barleys, such as the Russian, which is most suitable—market value considered—for stall feeding.

How the Barleys Stand in Price.—An examination of the market prices of the various foreign barleys gives a good idea of the countries which enter most strongly into competition for British trade. Taking the quarter of barley at 400 lbs., the average price of British barley during the three years from 1893-95 was 24s; Austrain barley made 27s 2d; Holland, 27s 11d; Germany, 26s 4d; France, 25s 10d; Sweden, 24s 7d; Denmark, 24s; Turkey, 20s 3d, and Russia, 14s 2d, while the United States averaged 23s 2d. The foregoing indicates the superiority of foreign over home-grown barley, but it also indicates—value for value—the advisability of purchasing cheaper foreign barley for stock-feeding purposes.

California's Opportunity.—Of course California's opportunity lies in the shipment of fine brewing barley and, as the figures show, the valuation is far above the prices for feed barleys and approaches the value of the home-grown article. Probably, too, the rate would be somewhat higher if only the California barley were included.

THE DAIRY.

Dairying in California.*

NUMBER III.

WINTER SHELTER IN CALIFORNIA.

Some hints of the winter care of our dairy stock have already been given in connection with the discussion of pasture. It should, however, be plainly stated that our winter or rainy season climate is so mild that it is possible to conduct a dairy without any shelter whatever for the cattle, and probably three-fourths of our cows have none. They pass the days and nights on the pasture ranges and are gathered into paddocks or "corrals" twice a day for milking. While it is possible to do this, it is clearly not desirable; and though it saves the cost of sheds or barns, it is evident from the experience of those who follow a better system that the increased yield and better quality of product from cows which have shelter, when shelter is desirable, more than pay good interest upon the investment required to provide buildings. Cows which are compelled to stand through chilly and sometimes protracted storms cannot do their full duty at the pail. Food has to go to maintain living temperatures in the body during such stress of weather. Although our winter temperature, in all except the mountain region, rarely falls below freezing, the drenching of cold rains is still a severe tax upon animal endurance. Besides, milking in the open air during such storms is bad for the cows, bad for the milkers and especially bad for the milk. Milking in the rain carries much of the hide-wash into the pail; and where the corral is floored with soft mud and manure so that the udder is befouled, it is next to impossible to get clean milk. California dairying is often condemned for such practice, and it should be; but in current comment the occurrence of the evil is often exaggerated. The contamination of the milk by corral dust in the summer is also a coustant danger. It requires the greatest effort to avoid filth in open-air dairying. To accomplish this, and for the benefit of the cows, and the comfort of the milkers, there has been a notable increase during the last few years in the number of barns and sheds on our dairy farms, and some adopt the practice of always milking under cover and of retaining the cows in the stanchions during heavy storms; and at least one establishment—that of D. D. Wilder of Santa Cruz—not only has fine cow barns, but lights them and the adjacent corrals with electric lights. The conclusions of the most thoughtful dairymen on this subject are outlined well by Mr. James Boyce, manager of the Diamond Springs Creamery, Humboldt county, in these words:

> Cows are stabled at night about thirty-five to forty nights in the year and fed hay and roots. In some localities no barns are used; cows are milked in open corrals, and only get the grass that grows. But cows do better when sheltered from the rain and fed in warm barns during the rainy season of each year.

The importance of this matter is of course greater in regions of heavy and protracted rainstorms and tenacious soils. In parts of the State where there is a light rainfall and sandy soils, the open-air system is less objectionable; but even in such places there are those who believe in good buildings and generous feeding in addition to pasturage. In the mountain region good dairy barns and ample winter food are provided as the wintry conditions require them.

WATERING DAIRY STOCK.

The water supply has been suggested in the foregoing descriptions of the dairy regions. Wherever perennial flowing streams exist they are fully drawn upon. Over a much greater area of the State, however, dependence is placed upon wells and windmills or upon flowing artesian wells, and in some cases upon water from irrigation ditches. This water is always of moderate temperature and no special methods of watering stock are employed.

MONTHS OF GREATEST PRODUCTION AND THE YIELD PER COW.

The months of greatest milk production in the southern half of the State, and in the interior, both north and south, are April and May. In the coast region north of San Francisco, owing to the later season of green grass, the two best months are May and June. But all the months from March to July, inclusive, give a good milk yield, and by due effort for feed and seasonable calving the dairy is run at considerable capacity the whole year. Except in the mountain region, many creameries are operated the whole twelve months.

The estimates of a satisfactory yearly product for an average cow, furnished by a large number of dairymen, vary widely. One correspondent places it as low as 150 pounds of butter and several cite 300 pounds. From 200 to 250 pounds of butter in a year is the range mentioned by most correspondents. Though there are bands of thirty to eighty cows reported from Humboldt county as ranging from 275 to 325 pounds of butter yearly, it is plain that such dairies are above the average, both in breeding and selection, or in feeding, or in both.

NUMBER OF CREAMERIES IN CALIFORNIA.

It is exceedingly difficult to state exactly the number of the manufacturing establishments which should be called creameries or butter factories in distinction from private dairies. This is due to the system of large dairy proprietorship in this State to which allusion has already been made. If we should call that alone a creamery which handles the milk of several producers, we should give creamery honors to some establishments which are smaller in cost and in production and less thoroughly equipped than other establishments which handle the milk of a single owner or renter of cows. As a matter of fact, the term "creamery" has often come, in this State at least, to signify any concern, however owned or managed, which is equipped with power, centrifugal separators, and other concomitants of modern dairy practice.

As prices for dairy produce have declined to a level near the actual cost of production, even by means of the best appliances and the most economical processes, there has been during the last few years a very general disposition to follow creamery practices as the only means of survival. The result has been a remodeling of the large private dairies as well as the organization of co-operative creameries. The largest and most successful creameries are situated in the coast regions both north and south of San Francisco. Occasionally one of these has proved illy placed or badly planned and defectively furnished, for dishonest and slipshod work in dairy building and equipment has been experienced here as elsewhere. We have also suffered to some extent from the nefarious efforts of the creamery "boomer," or promoter, and creameries have been constructed where there are no cows. Of these the buildings have been put to other uses and the machinery set aside or sold at a sacrifice.

By the closest computation that can be made, the number of establishments which are operating upon the creamery plan in California in 1896 is 300. Of these, 100 are creameries, receiving the milk from a number of patrons, and 200 are private dairies with power separators and other creamery adjuncts. These "private creameries" average about 150 cows each, with some of them having as high as 400 cows. The co-operative creameries range in cows from 250 to 4000, with an average of 500 cows. Of these establishments one-half are proprietary and the other half about equally divided between joint stock and co-operative. All sorts of opinions are given by correspondents as to the comparative advantages of the different kinds of ownership. The joint-stock plan, if most of the stock is owned by the farmers of the neighborhood, seems to be most generally approved.

WIDE USE OF CENTRIFUGAL SEPARATORS.

All the creameries of California are conducted upon the separator plan. As previously stated in connection with the description of the dairy regions, the absence of natural ice and cool water in all save the mountain region renders all deep-setting devices impracticable, though refrigerating machines are being introduced for creamery use. The only issue, then, is that between the separator and the shallow pan, and the separator is the *sine qua non* in our creameries and is rapidly pushing out the pans in the smaller dairies as well. All the prominent patterns of separators are in use. The largest creamery in California is the establishment of the Guadalupe Creamery Company (co-operative), located at Guadalupe, on the coast, in the northwest corner of Santa Barbara county. It has capacity for the milk of nearly 4000 cows and is in a region of very large dairy holdings. It has one skimming station and uses altogether six separators, and has received at times 60,000 pounds of milk per day. A very good representative report is that furnished by the Diamond Springs, at Swauger, in Humboldt county. In 1895 it received milk every day in the year, recording a total of 5,523,000 pounds of milk, from which there were made 263,000 pounds of butter; and 500 hogs, of from 100 to 200 pounds weight each, were grown upon the skim milk. This creamery paid out to forty-one patrons the sum of $50,000 during the year. The largest amount of milk received in a single day was 40,000 pounds. This milk was handled with four separators.

The Babcock test is almost universally adopted as a basis for payment for milk.

LENGTH OF SEASON AND SUNDAY WORK.

As already stated, almost all of the creameries in the coast regions run continuously throughout the year. A few stop during January and February. As for Sunday labor, there is some variation in practice, though the rule in the larger establishments is to operate on Sundays just the same as on other days. At San Bernardino only separation is done. This gives the patrons the skim milk for feeding and saves the housewives the care of the milk at home. In some other establishments no extra cleaning is done on Sunday, which somewhat shortens the day for the workmen.

MILK VALUES IN DIFFERENT MONTHS.

The returns made to patrons for milk, and the months during which high and low values rule, can best be shown by reference to reports received from widely distant parts of the State:

The San Bernardino Creamery Association reports returns per 100 pounds of milk during 1895, as follows: January, $1.10; February, $1.05; March, 90 cents; April, 75 cents; May, 70 cents; June, 65 cents; July, 80 cents; August, 90 cents; September, $1; October, $1; November, $1; December, $1.05.

W. W. Cocke, proprietor of the Star Cheese Factory, Downey, Los Angeles county, paid for milk, on the basis of 4 per cent butter fat, as follows: January, $1.15; February, $1.15; March, 74 cents; April, 74 cents; May, 78 cents; June, 87 cents; July, 87 cents; August, 95 cents; September, $1; October, $1 02; November, $1.10; December, $1.15.

P. A. Raab, proprietor of Bolsa Creamery, Orange county, reports payments per 100 pounds of milk as follows: January, $1.10; February, 90 cents; March, 65 cents; April, 50 cents; May, 57 cents; June, 65 cents; July, 80 cents; August, 89 cents; September and October, not running; November, $1.10; December, $1.20.

The following are returns in cents per pound of butter fat for three creameries in Humboldt county in 1895:

1895.	Diamond Springs.	Excelsior.	Riverside.
January	22	..	..
February	17	..	..
March	14	13	14
April	12	12	12
May	11½	11	11
June	14	13 3-5	13
July	14½	15	15
August	23¼	21¾	23
September	20¼	19½	21
October	23¼	23¼	23½
November	31	31	31
December	26½	25	26½

Grizzly Bluffs Creamery, Humboldt county, reports the average value of butter fat for the year 1895 at 18.69 cents per pound. At the Star Creamery in Sacramento county, which is in the alfalfa pasturage region, the total milk received during the year 1895 was 2,684,240 pounds, which yielded butter at the average rate of 4.34 pounds to the 100 pounds of milk, and returned to patrons a net amount of $17,084.97, or 63⅔ cents per 100 pounds of milk. The average price of butter was 18⅔ cents per pound, the average freight and commissions a little less than 1 cent per pound and the factory charge 4 cents per pound. This creamery had the advantage of a local market in the State capital, which is adjacent to the establishment.

PROPORTION OF CREAMERY PATRONS.

The creameries have usually succeeded in securing the patronage of nearly all the dairy farmers, except in localities where the large-holding dairy system has brought creamery outfits into individual establishments, as already considered. An instance of this is in the Bodega district of Sonoma county, where but one-third of the dairymen patronize the creamery. In contrast to this state of affairs, in the leading valleys of Humboldt county more than nine-tenths of the dairymen carry milk to these establishments, while in the county, as a whole, more than one-half take this course.

DISTANCE OF MILK CARRIAGE.

The longest distance covered in carrying milk from the farm to the creamery is reported from Knight's Landing, in Yolo county, where the distance is placed at ten miles. As it is a region of riverside farms, it is contemplated to convey milk by a small steamer on the Sacramento river even from greater distances. The longest distances reported by inland creameries are eight miles in Siskiyou county, seven miles in San Luis Obispo and Mendocino counties and six miles in Tulare and San Bernardino counties. Usually the longest hauls reported are five miles and the average from 1½ to 2½ miles.

(*To be Continued.*)

*By Prof. E. J. Wickson of the University of California; issued by the U. S. Dept. of Agr. at Washington, as Dairy Bulletin No. 5 of the Bureau of Animal Industry.

The Earth as a Magnet.

Dr. J. A. Fleming, F. R. S., in a lecture at Liverpool during the meeting of the British Association for the Advancement of Science on "The Earth as a Magnet," said that Columbus on his first voyage to America had made observations which showed that the declination of the needle is different at different places, and that there is in general a variation of the needle. Columbus appears to have crossed in this voyage the line of no variation on which the needle takes a true north and south direction. Burroughs' exact measurement of the variation in England in 1850, however, gave a starting point for the knowledge that the declination not only varies from place to place, but varies at the same place from year to year. The lecturer then pointed out by means of a number of charts and working models the general distribution of terrestrial magnetism. There are two poles of verticity, one in each hemisphere, where the dip needle stands vertical. These were closely attained by Sir James Ross in voyages to the Arctic region in 1831, and Antarctic regions in subsequent years. In addition to this there are in the northern hemisphere two places of maximum magnetic force called foci; and at least one, and perhaps two, foci in the southern hemisphere. This irregular distribution of magnetism precluded the idea that the earth acts as a single magnet. The poles of verticity do not coincide with the geometrical poles of the earth, nor do either of the foci coincide with the pole of verticity. The northern foci lie, one in the north of Canada and one in the north of Siberia.

The question of the nature and origin of terrestrial magnetism was considered. If the greater part of the earth's magnetism is due to the materials of which the earth is composed being permanently magnetized, then it is tolerably certain that this magnetic effect is wholly confined to a layer not much more than twelve miles thick. At that depth the rock material of the earth's crust is probably incandescent, or at least at a temperature of 800° C., and this is sufficient to destroy all magnetic quality in iron, magnetite, nickel or other magnetic bodies. On the other hand, we know that there are electric currents circulating in the crust of the globe, and a properly arranged flow of electric currents around the globe, flowing in the contrary direction to that in which the earth rotates, could be made to imitate the magnetic effect of the earth. These earth currents might exist at much lower levels than that at which any permanent magnetism of the material was possible.

Scientific Joking.

The dangers of "scientific joking" were never better exemplified than has recently been the case in the United States. D. Starr Jordan, president of Leland Stanford University, recently contributed an article to "Appleton's Popular Science Monthly," to which he gave title of "The Sympsychograph." This purported to be an exact account of the proceedings of the "Astral Camera Club" of Alcalde, California, whose members, by fixing their minds on the idea of a cat, succeeded in impressing that idea upon a sensitive photographic plate, and in thus obtaining a "thought photograph" of the animal. To add completeness to the "proceedings," the photograph of the "materialized thought" was reproduced in the body of the article. The "proceedings" as recorded were written in the customary serious vein usual to such records, but it is difficult to understand how any person could have read it without understanding that it was an elaborate "hoax," written expressly for "guying" many extraordinary accounts in the daily press of so-called "thought photography."

Our American contemporary, *Science*, and many daily newspapers, however, took the matter literally, and the former quoted the article extensively in the issue for 4th September. The following week's issue, however, contained an expression of regret that the comments should have appeared. It is undoubted that the "poking of fun" by such men as Mr. Jordan does considerable harm. Scientific men are, of course, not generally deceived by such a practice, but the daily press is always to the fore in "recording" any information of an "extraordinary" character, and no amount of subsequent contradiction will, in most cases, convince the general public that they have been hoaxed; in fact, it is very seldom that the daily press takes the trouble to publish a contradiction and an admission that it has been hoaxed. —Industries and Iron.

ALTHOUGH it is recorded in history that the census of Japan was taken as early as 281, no figures then obtained remain on record. In the year 1720, the population numbered 26 065,422; in 1815, 25.622,000; in 1880, 35 929,000; in 1885, 37,869,000; and in 1893-94, although the exact figures are not known, it may be inferred from the rate of increase during the preceding two decades that the population of Japan at the end of the year 1894 could not have been much less than 42,000,000. As Formosa has been newly added to the Japanese territory by the treaty of peace, and more than 3,000,000 of people in Formosa have, in consequence, become Japanese subjects, the present population of the country is probably more than 45,000,000. The area of the new territory being 2,532 square ri (sq. ri = 5.9 square miles), the total area of the country, which was before the war 24,794 square ri, is now 27,326 square ri. Japan, in the extent of her territory compared with European countries, stands now next to Spain, being about equal to Sweden. She is larger than Great Britain and Ireland by 6,933 square ri, and is the eleventh largest country in the world. Her population is greater than that of France by 6,600,000, but less than that of Germany by 4,416,000. Compared with Great Britain and Ireland, she has 7,100,000 more people. In population Japan ranks as the fifth power in the world.

THE British Consul at Iquique reports that great quantities of machinery of every sort, locomotives, boilers, tanks, are constantly required both for new works and for maintaining the old ones. The British manufacturers hold their own without difficulty. Their efforts to secure trade are worthy of success; they issue catalogues in the Spanish language, and, when possible, prices are affixed. Sterling prices are quite sufficient, the unit in this denomination being commonly used throughout Chile. In one department, however, we are often run out of the market, viz: in electrical machinery and appliances. The United States is able to turn out satisfactory work in this line, well finished and up-to-date, and it may be observed *en passant* that the commercial travelers representing the hugely capitalized companies in the States seem to have more push and to be more active than their English confreres.—London Machinery.

THE moment that a young crocodile breaks its shell it is to all intents and purposes as active as it is at any time during life. It will make straight for the water, even if it be out of sight and a good distance off, and it will pursue its prey with eagerness and agility during the first hour of its free existence.

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DR. WILLIAMS THE INSTRUMENT.

From the Republican, Fresno, Cal.

A case reported from Fresno county is that of a well-known former resident of Kingsburg, though now residing at Selma.

Mr. J. M. Purves is an old gentleman of seventy, who, during his long residence in Kingsburg, was beloved alike by young and old, and he is equally endeared to the people of his new home.

It was about July 15, 1896, that a reporter of the *Republican* met Mr. Purves, and was astonished to see such an improvement in his appearance. He looked ten years younger and much stouter than when he moved away from Kingsburg for the benefit of his health, and he was congratulated on his improved appearance.

"I was all run down when I moved away," Mr. Purves said; "something like an old clock that is worn out, but I have undergone such repairs as I think will keep me in running order for many years to come if no accident occurs."

"What was the agent that wrought the change, Mr. Purves?" the reporter asked. "Was it Pink Pills? they seem to be doing all the healing in Fresno county."

"Pink Pills are the very things that have built me up," Mr. Purves answered. "I happened to read one of the advertisements of their healing qualities, and then read several more, and somehow there was something in the way the testimonials read that assured me they were true. One in the San Francisco *Examiner* especially impressed me, and I sent at once and bought some of the pills. I took them as directed, and I do not think I need tell you what they have done for me. I am quite recovered and set back in the journey of life at least twenty years. I have done more work since I have taken them than for a long, long time before. Indeed I may say since long before you were born.

"I took only two boxes in all, but I shall always keep them by me as long as I live in case of relapse."

(Signed) J. M. PURVES.

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List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING OCTOBER 27, 1896.

569,991 —NEWSPAPER WRAPPING MACHINE.—W. A. Beehe, King City, Cal.
570,431.—TAP GRINDING MACHINE—L. D. Biddle, Los Angeles, Cal.
570,198 —GATE—Della R. Burnham, Pullman, Wash.
570,086.—BEER GOVERNOR—J. D. De Gear, S. F.
570,385.—FRUIT PICKERS' BASKET—A. M. Denig, Riverside, Cal.
570,157.— TRIGONOMETRICAL ELUCIDATOR—R. H. Edmiston, Los Angeles, Cal.
570,402 —CAR FENDER—L. A. Hufschmidt, S. F.
570,407.—BABY CARRIAGE—J. A. Johnson, Hoquiam, Wash.
570,026.—DUST PAN—A. Koehler, Baker City, Or.
570,223.—WAVE POWER—F. G. Little, Portland, Or.
570,257.—THRESHER FEEDER—J. W. Livermore, Kingsbury, Cal.
570,330.—MINING MACHINE—E. Patterson, Oakland, Cal.
570,338.—CARD DRIER—N. H. Reed, Santa Barbara, Cal.
570,344.—TROLLING HOOK—A. H. Smith, Snoqualmie, Wash.
570.113.—CORK CABINET—Wilson & Neely, Wilbur, Wash.

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THE HOME CIRCLE.

Story of the Seeds.

"One I love;" a pretty face
Bending o'er the grate:
"Two I love;" a soft, sweet voice
Measures out her fate,
"Three I love," I say, and still
Other seeds galore.
"Four I love with all my heart."
What need is there of more?

"Five I cast away"—Ah, no!
Fortune thus were wrong
Should the count thus ended be;
Love's ties are too strong.
"Six he loves;" a dimpled smile;
"Seven she loves;" a blush;
"Eight both love;" a sweet look steals
O'er the fair face flush.

"Nine he comes; he tarries ten;
Eleven he courts"—but wait!
Anxious search has failed to find
The seed where rests her fate.
Carefully she looks them o'er,
Then, as brow grows light,
"Twelve he marries. Mercy! I
Nearly died from fright!" —Puck.

A Counterplot.

An old family feud existed, and had for years and years, between the Huxleys and the Hallidays, whose respective ancestral cabins stood well up in the Tennessee mountains. Far back in the days of the great-grandparents of the present Huxleys and Hallidays, the two families had enjoyed famous terms of friendliness, but a trifling misunderstanding had arisen; disputes and quarrels had followed in swift succession, and from their estrangement sprang a feud that was destined to be handed down from one generation to another.

This feud, however, had been allowed to slumber of late years, but when Bud Huxley and Buck Halliday, the handsome, strapping young representatives of the two families, both began paying their most marked attentions to Alvira Roberts, it threatened to break forth with renewed force. The neighbors seemed to hold their breath as they awaited some terrible termination of the rivalry.

Alvira Roberts was thought by many to be the prettiest and smartest girl down in Brown's Cove, and her intimate friends were completely carried away with admiration of the cleverness she exercised in keeping down an outbreak between her hostile lovers.

Bud was characterized by much bluster and threat, but it was safe to say that he would never be the first to strike a blow. Buck lacked neither spunk nor firmness, but his susceptibility to woman's influence made him yield readily to Alvira's adroit management. And so peace was preserved, outwardly at least.

Alvira's appointments with the young men never conflicted. If she went with one to the singing at the old log schoolhouse up Brown's Cove one night, she would smooth away the anger and acrimony of the other by accepting his escort to church the very next Sunday.

To the slow, plodding mountaineer folk around Brown's Cove it was a great source of wonder how Alvira could so successfully manipulate "the two strings to her bow" as to suppress an outburst of the old Huxley and Halliday feud; but she did manage to do so, and did it so skillfully, too, that the rivals never happened to encounter each other while going to or coming from her father's cabin.

One evening as Alvira was driving the cows home through the broomsedge, Bud Huxley suddenly appeared before her.

Greeting her pleasantly, he dismounted, took his horse's bridle rein over his arm, and walked along by her side.

"I wasn't 'spectin' yer this evenin', Bud," remarked the girl, glancing half coyly up at the bronzed face of her lover.

"I 'low yer wasn't. I jes' naterally stold er march on yer this time, Alviry," and Bud laughed at what he considered a pretty fair joke. "Yer see, thar's goin' ter be some sort o' show at Blingens' schoolhouse Hallowe'en night—a jack-um-lantern doin's, with purty picters an' sights drawed on er white sheet by some kind o' jimcranky scientific process. It'll be amazin', and I 'low every last critter in the Cove'll be thar."

"I've been hearin' somethin' erbout ther show."

"I 'low yer be aimin' ter go, Alviry."

"I've been kindy aimin' ter try ter go."

"With me, Alviry?"

"I wasn't countin' on yer, Bud."

"Who yer been countin' on? Oh, pshaw! Alviry, you'll let me take yer, wot't yer?" he pleaded.

"I'm pow'ful sorry, Bud, but yer too late. I've done promised ter go," she answered, her eyes drooping beneath the swift flash of anger which leaped into her companion's dark eyes.

"Done promised! Who yer aimin' ter let take yer?" he demanded, with all the authority of one who has a full right to ask.

She did not answer, and her silence irritated him.

"Yer 'shamed ter name him, air yer? Waal, I'm sure I don't blame yer none. Old Buck Halliday's mighty pore company for a purty gal like you, Alviry," he went on, half contemptuously, half passionately. "So yer be goin' with him?"

"I reckon so, Bud," she replied, her dauntless spirit returning.

"Thet hain't er bit fair!"

"Wot ain't fair?"

"Yer goin' with Buck."

"Why ain't it?" she asked, looking very independent and bewitching as she whipped the broom by the roadside with the stick which she carried.

"Yer went with Buck ter ther very las' show thet kem erlong through these hyer parts, an' it be my time ter take yer ter this un," he answered, his resentment somewhat subsiding as he watched the girl's graceful movements.

"Waal, Buck axed me ter go, an' I was wantin' ter go powerful-like, an' I was afeared somethin' might kem up ter hinder yer from goin'; so I ups an' gins my word ter Buck," she explained.

"Waal, thet settles it fer er fac', I reckon," Bud replied, vaulting into his saddle and starting away.

A new idea, however, flashed across his mind, and, wheeling his horse, he rode back to her side.

"S'pos'n', Alviry, thet Buck shouldn't git hyer on time?" he suggested, a peculiar twinkle in his eyes, which the girl failed to note. "Yer got ter be at ther schoolhouse 'fore eight o'clock ef yer want ter see all ther show. Them show folks be pow'ful prompt-like 'bout startin' up jes' when they say. Would yer go with me ef Buck fails ter be hyer on time?"

She considered her words a moment, then said:

"Ef he's not airly enough to get me ter ther show in time ter see ther whole of it, I'll 'ccpt o' your comp'ny, Bud; but yer got ter gin yer word as yer won't say nothin' to Buck an' bring up yer ole fussin's," she stipulated, decisively.

Bud gave the required promise, then rode home with pleased anticipations of the victory which he felt certain of achieving over his rival.

Darkness was settling down over the mountains on Hallowe'en as a horseman entered the woody slope and rode swiftly away toward Buck Halliday's isolated cabin.

Dismounting, he tied his horse in the thicket, then reconnoitered the premises of his rival.

Buck Halliday seemed in a very jubilant mood. He whistled away very merrily as he saddled his large bay mare and led her out from the little shed well back of his cabin. He hitched her to a sapling in the edge of the wood, while he hasted up to the house to change his clothes.

He was one of the most fastidious mountaineers, in the matter of dress, in that region. He spent a longer time over his toilet than he thought, but at last he was ready and came whistling out to mount his faithful mare.

He reached the sapling where he had left her, but his merry whistle suddenly ceased. He gazed about him in a queer, dumbfounded fashion. The mare was gone!

He searched the premises and adjoining woods in vain. She was nowhere about.

"I'm thunderin' s'prised!" he ejaculated, halting in his perplexity. "I never knowed Bell ter act that way before. It's cur'ous."

He took off his hat and scratched his head as if to reassure himself that he was awake. Then a sudden thought came to him.

"It's Hallowe'en, an' I jes' 'low ther witches have been tollin' her off," he remarked, recalling an old superstition of the Halliday family. "I've heard gran'father tell o' ther mighty cur'ous pranks when he was young an' cavortin' roun' the mountains."

Although Buck might harbor the superstitions of his fathers, he was no coward, and despite the thought that there might be "Hallowe'en witches" abroad, he struck boldly off through the dark woods, determined to find his missing mare if she were within a walking radius of his cabin.

"She haint been gone long," he said, as he hurried forward, "an' ef Bell hears my voice she'll kem a-tearing' ter me, ef er whole passel o' Hallowe'en devils have hoodooed her. I hope they ain't pesterin' Alviry, too, an' makin' her impatient 'cause I'm late. Ef they do I reckon she's drap me an' take up with Bud Huxley in earnest."

At the very moment that Buck Halliday started in pursuit of the "Hallowe'en witches who had tolled Bell away," Cordella, Bud Huxley's pretty sister, was down at the big spring below her father's mountain cabin. Isolated from all amusements except an occasional dance at some mountaineer's, she was wishing that Bud had been brotherly enough to have taken her to the show at the Bingens' schoolhouse in the valley.

Suddenly some one on horseback, leading another horse, shot swiftly past her and disappeared among the piney bluffs above.

Cordella, as quick-witted as she was pretty, sped stealthily off in pursuit of the mysterious horseman.

"I was sure 'twas Bud," she told herself, watching from behind a vine-grown sapling, as the rider dismounted and firmly secured the led animal down in a gorge between two rugged bluffs. "He's up ter some trick. I'll bet I know. Thet's Buck Halliday's bay critter he's hidin' in ther holler, an' he's aimin' ter get ahead o' Buck with Alvira."

From her concealment Cordella watched her brother dismount and ride away; then she approached and untied the horse.

"Ef Buck fin's his critter up hyer by our spring ther'll be trouble o' some kind," she said, with some excitement. "I aim ter hender it ef I can. I—I don't somehow want our folks ter fuss with Buck. He's so fine-lookin.'" But the dense pine shades hid the blush that arose to her fair cheeks.

She waited until Bud was almost at the Cove. Then she led the gentle mare to a projecting rock, sprang lightly into Buck Halliday's big saddle and started down the gorge.

The moon was just ascending to the lofty mountain tops and lent a weird beauty to the scene as Cordelia urged the animal to a little canter.

She crossed the woody slope, then made a wide detour to reach the road on the opposite side of Buck's cabin.

"He'll not s'picion Bud ef his critter comes home thet way," she reasoned with herself. "I'm aimin' ter keep down thet ole fussin', ef I can."

She had almost gained the road, when a man's deep voice called out:

"Halt thar!"

Cordella's heart beat like a trip-hammer, but she drew rein as Buck Halliday hurried forward to claim his property. He was in the act of giving vent to his pent-up wrath against the daring culprit, when a winning voice said:

"Good evenin', Buck. I found yer bay critter prowlin' roun' up near our spring, so I jes' rode her home, 'cause I didn't want yer ter get mad an' 'spect any o' we-uns o' playin' a mean trick on yer;" and Cordella slid gracefully to the ground, and stood there before him, like a charming little witch that she was, in the refining moonlight filtering through the waving boughs over their heads.

The young mountaineer's anger vanished before that vision of loveliness, and though she was the relative of his old enemies, truth to tell, he had for some time cherished a secret admiration for her.

"I 'lowed maybe Bell hed been rid off by witches, seein' it's Hallowe'en," he laughed.

"She acted cur'ous-like when I foun' her," returned Cordella, her quick wit enabling her to tell the truth, yet not all the truth.

"It's Hallowe'en's doin's," he explained, his mind reverting to the Halliday superstitions, "else Bell wouldn't a-kem loose an' cavorted roun' up thar ter yer spring. I've heerd gran'father say—but wot's thet?" he asked, breaking off suddenly to listen.

The steady beat of a horse's hoofs could be heard distinctly, striking the hard road just without the wood where Cordella and Buck were standing.

Peering through the foliage, the moonlight enabled them to distinguish a man's figure on horseback, with a girl's riding behind him.

"It's Bud an' Alviry, an' ther goin' ter ther Bingens' schoolhouse," whispered Buck.

Cordella had easily recognized the riders, and she held her breath from very terror lest Buck should rush out in fiery indignation and attack his rival then and there. But his voice was calm and betrayed an indifference which surprised her.

There was a short pause, then Buck said:

"Say, Cordelly, won't yer help me ter play er Hallowe'en prank on them?"

"Maybe. Wot is it?"

"Let me take yer on Bell behind me down ter ther show," he entreated. "I know er short cut an' can beat em thar. Come, do, Cordelly!"

But the girl hesitated. Her heart said go, for she liked Buck, in spite of the old feud, but what would the folks at home say and do if she went with him?"

"Do go with me, Cordelly," pleaded the stalwart mountaineer.

"Don't you see ther Hallowe'en witches meant it ter kem out this hyer very way? They jes' hoodooed Bell ter go off up ter yer spring, then kinder inspired yer ter ride her back ter me. Gran'father allus said, ef yer failed ter obey ther promptin's o' them Hallowe'en sperits, yer'd sure miss a heap o' good luck."

"Maybe them sperits means ter put er stop ter thet ole fussin' betwix our folks," said the girl, brightening with the idea.

"I hope they do, Cordelly," he said earnestly. "I haint nothin' no more agin yer folks."

"An' I haint agin yers, Buck," she answered sweetly.

Bud Huxley was never more surprised in all his life than when he entered the Bingens's schoolhouse, that night with Alvira Roberts, to see his rival and old enemy seated serenely by the side of his lovely sister.

Buck and Cordella enjoyed with keen relish the stares of wonder and astonishment with which Bud and Alvira favored them.

In accounting for the reconciliation, which immediately took place between the Huxleys and the Hallidays, those simple-minded mountaineers gave full credit to the mysterious workings of Hallowe'en.

The burial of the bitter feud created no end of wonder and talk in Brown Cove, and some who had been strongly instrumental in feeding the flames of the quarrels shook their heads doubtfully. When, however, a few weeks after the show at the Bingens's schoolhouse, old Parson Pratt pronounced a simple marriage ceremony for Buck and pretty Cordella, they had to acknowledge the genuineness of the reconciliation.—Ad. H. Gibson.

A bit of pumice stone, smoothed and vigorously used on the finger tips, will effectually cleanse them from any stain, without the danger of causing soreness which frequently arises from the employment of chemical preparations.

Gems of Thought.

Every one has a fair turn to be as great as he pleases.

Kindness is wisdom; there is none in life but needs it and may learn.—Bailey.

No metaphysician ever felt the deficiency of language so much as the grateful.—Colton.

The true democratic idea is, not that every man shall be on a level with every other man, but that every man shall be what God made him without let or hindrance.—Beecher.

Ruskin once said: "Do not think of other's faults; in every person who comes near you look for what is good and strong; honor that, rejoice in it, and, as you can, try to imitate it."

Let us be content to do little, if God sets us at little tasks. It is but pride and self will which says, "Give me something huge to fight, and I should enjoy that; but why make me sweep the dust?"—Charles Kingsley.

A life in any sphere that is the expression and outflow of an honest, earnest, loving heart, taking counsel only of God and itself, will be certain to be a life of beneficence in the best possible direction.—J. G. Holland.

If a man perform that which hath not been attempted before, or attempted and given over that which hath been achieved, but not with so good circumstance, he shall purchase more honor than by affecting a greater difficulty wherein he is but a follower. —Boem.

One day when I was with Mr. Hicks, the painter, I saw on his table some high-colored stones, and I asked him what they were for. He said they were to keep his eye up to tone. When he was working in pigments, insensibly his sense of color was weakened, and by having a pure color near him he brought it up again, just as the musician by his test fork, brings himself up to the right pitch. Now, every day men need to have a sense of the invisible God. A clear conception of the perfect. One produces a moral impression; and it does not make any difference how you get it. If you are poetical, you get it through the imagination. If you have large veneration you get it through that quality. If you are most easily affected through your emotions, you get it through these elements. If by the intellect, by the imagination, by the affections or by the moral sentiments you are exalted into the conscious presence of God, then you have obtained that which renders prayer of transcendent value, and which gives tone to your whole nature. But no nature is of such magnitude that it does not need, every day, to be tuned, chorded, borne up to the ideal of a pure and lofty life.—Henry Ward Beecher.

Curious Facts.

The advantages of advertising were recently illustrated in London. A man advertised for the return of a lost cat. In less than a week 322 of them were brought to his house.

It has been frequently stated that steam is driving sailing vessels off the seas. It appears that about one-half of the tonnage of the world is in vessels propelled by wind, and even in Britain forty per cent of the tonnage is in sailing vessels.

Japanese auctions are conducted in the following manner: Each bidder at an auction writes his name and bid on a slip of paper, which he puts in a box. When the bidding is over the box is opened, and the goods declared the property of the highest bidder.

In Syria people never take off their caps or turbans when entering the house or visiting a friend, but they always leave their shoes at the door. There are no mats or scrapers outside, and the floors inside are covered with expensive rugs, which, in Moslem houses, are kept very clean, and used to kneel upon while saying prayers.

For those who believe in the fatality of the number thirteen, the American quarter-dollar is about the most unlucky article they can carry on their persons. On the said coin there are thirteen stars; thirteen letters in the scroll which the eagle holds in its claws; thirteen feathers composing its wing; thirteen feathers are in its tail; there are thirteen parallel lines on the shield, thirteen horizontal stripes, thirteen arrowheads, and thirteen letters in the words "quarter-dollar."

Although, remarks the Lewiston, Me., *Journal*, a distinguished scientist claims that a horse is not an intelligent animal, as compared with some other beasts, yet he would have hard work to convince some Portland people that one horse cannot make plans and act on them. This horse wanted a drink, so he walked across the street to a fountain, but there found that another horse, attached to a job wagon, was standing at the curbstone directly in his way. But the thirsty equine was a beast of resources. He deliberately took the bridle of the other horse in his teeth and backed him until the way was cleared for him to thrust his own nose into the fountain.

Fashion Notes.

Among the trimming silks the moire and glace silks are conspicuous. The latter have a moire wave, but also a glossy surface that deepens the color in the folds, and are more youthful in effect than the usual moires. Very thin stuffs are mounted over these, with perhaps a belt of the silk. On slender figures skirts slashed in the side breadths and filled in with falls of lace are charming. Such a gown is made over a foundation of pale blue silk with belt of turquoise velvet. The high crushed belts have by no means departed with the summer frocks. Nothing is prettier on a youthful figure, and they will be worn a good deal on winter dancing gowns.

In tea jackets the loose sacque shape is shown. They are less trim than the Louis Quinze shapes, but extremely pretty and certainly comfortable. One has a yoke of pink velvet with a jacket of accordion plaited pink silk hanging straight from the yoke. The yoke is finished by a twist of fancy black and pink ribbon that fastens in a large bow on one side of the bust. The collar suggests the Medicis in shape, although it is made of the fancy ribbon plaited and has a lining of lace frills.

For children's hats it is always well to make the design as simple as possible. Avoid two shades of ribbon if one will do as well, and any unnecessary number of feathers and ornaments.

The rage for hand sewing has ended in a perfect mania for tucks upon all possible parts of the costume. All manner of materials are subject to this treatment, and, except in extraordinary cases, are beautified by it. The muslins and dimities are tucks galore, and wonderfully dainty with tiny Honiton lace braid in white.

Shirt waists are now made of striped or moire silk after the fashion of linen waists, and with adjustable white linen cuffs. The severe turnover collars are finished by a scarf of the same silk tying in a square bow with fringed ends.

Among the trifles at the furriers are pocket-books made of the small ermine weasels, black-tipped tail and all; also ruffled boas made of a ruffle of lace or velvet and a ruffle of fur. There are small ermine boas that will be worn with velvet jackets and sets of ermine buttons that will perhaps constitute the sole trimming on these smart coats.

DOMESTIC ECONOMY.

Domestic Hints.

Spanish Bun.—This is a simple cake, very good for luncheon or for the lunch basket. One and a half cups sugar, one-half cup butter, two eggs, three-quarters of a cup of milk, two cups flour, one cup currants, one teaspoonful baking powder.

Baked Apple Pudding. — Pare, quarter and core six good-sized apples and boil them in a small quantity of water until they are soft enough to mash. Pour off the water, and when thorougly mashed add a half pint of bread crumbs, sugar to taste, the grated peel of a lemon, three eggs well beaten and one ounce of melted butter. Bake in a moderate oven and serve with a hard sauce, made by stirring to a cream one cup of butter and two of pulverized sugar and flavoring with vanilla.

Canapes of Sardines. — For this take a dozen sardines from the tin, free them from oil by spreading them out apart on a large joint dish, tipping it up on edge and pouring very hot water gently over the fish; the water will drain downwards, carrying the oil with it. After having done this, take up the sardines with a slice, and lay them on a clean, dry cloth. Have ready a dozen pieces of fried bread (cold), a quarter of an inch thick and the length and width of a sardine; spread butter over each and lay a sardine upon it; mask with cold mayonnaise sauce, sprinkle over with chopped olives. To dish, lift the canapes with a palette knife and arrange them in a star pattern, with a bunch of watercress in the center and fillets of beet root between them.

Lamb Cutlets a la Princesse.—The cutlets having been neatly trimmed should be grilled, laid round a mound of spinach and served with this sauce; Wash, dry and slice up a small cucumber, skin and all, butter a stewpan with an ounce of butter, put in the cucumbers and fry them gently over a low fire; do not let them turn brown, stir in half an ounce of flour, and when well mixed moisten with just sufficient milk to cover; bring to the boil, season with salt and pepper, and simmer till the vegetable is soft; then work it through the hair sieve. Warm up again, finishing with a tablespoonful of cream. This should be pale green, the consistency of rich soubise, and very delicately flavored with the cucumber.

Cold Catsup.—Take one-half peck of ripe tomatoes, peel them and remove all seeds and cut in small pieces; put into a coarse cheesecloth bag and let it hang and drain over night. The next morning chop four onions, two red peppers, two green peppers, two roots of horse raddish (grated), one-half teacupful of salt, one teacupful of mustard seed, two scant teaspoonfuls of black pepper, one ounce of celery seed, one teaspoonful whole cloves; one teaspoonful ground mace, two scant teaspoonfuls of ground cinnamon, one teacupful sugar, one quart of good cider vinegar. Mix all with the tomatoes, bottle and cork well. This makes a delicious cold catsup.

Hints to Housekeepers.

Always fold a dress skirt right side out for packing, as it will not wrinkle so much.

Half a teaspoonful of sugar will nearly always revive a dying fire, and it is always a safe thing to use for this purpose.

Kerosene oil is the best of furniture polishes. It cleanses, makes a fine polish, and preserves from the ravages of insects.

Fat will not burn if it has something to do, so if it has to be left idle for a few minutes put a crust of bread or a slice of raw potato into the kettle.

Yellow stains left on white cloth by sewing-machine oil can be removed by rubbing the spots with a cloth wet with ammonia before washing with soap.

A few drops of tincture of benzoin in a bowl of water is an admirable tonic for the face. The benzoin whitens the skin and prevents it from wrinkling.

Do not put a coat or dress away with dust in the folds or plaits. Shake the garment well and brush with a soft whisk broom, for dust is never so easily removed as at first.

Do not mend a kid glove with sewing silk, for the silk cuts the kid and shows the mend more plainly, while fine cotton thread gives a much more satisfactory result. If a glove is torn, put a piece of silk of corresponding shade under torn part, baste carefully so as not to reveal the stitches on the right side, and then draw up the rent with cotton thread.

Keep a bowl of oatmeal on the washstand, and after washing the hands dry them in the meal. The skin will be kept white and smooth, and less liable to chap by this process.

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Electric Industry in the United States.

In the electric lighting field the total capital invested in the United States is given as over $500,000,000. The number of plants, public and private, is over 10,000. The number of motors in use is estimated at about 500,000, and their value at about $100,000,000. The electrical apparatus used in mining is estimated at $100,000,000, and the value of the electric elevator industry will probably not fall short of $15,000,000.

The most important of all the electrical industries, however, is that of electric railways. In this field the investment is very great, and in the United States is represented by a capitalization of over $700,000,000. The number of trolley cars in use is said to be over 25,000, and these run on over 12,000 miles of track. The electric railways represent more than 90 per cent of all the street and suburban railroads of the country.

The aggregate of all the capital invested in electric lighting, electric railways and electric power is about $1,500,000,000, and this does not include the value of the establishments that manufacture the machinery and apparatus. As many of these are among the largest industrial enterprises in the world, and as nearly all are concerns of considerable magnitude, it is very evident that their combined capital will run up into large figures.

Inasmuch as the electric light and power industry represents an investment of about $1,500,000,000, without counting the value of the concerns that manufacture the machinery and supplies, it is evident that to estimate the total investment in every department of the electrical industry at $2,000,000,000 in the United States alone is not extravagant, for this would allow only $500,000,000 to cover the value of the telegraph, the telephone and the almost unlimited number of electrical manufactories, large and small, that can be found, from one end of the land to the other.—Cassier's Magazine.

ONE of the curious phenomena of Utah and Wyoming is an occasional rainfall of salt water. Recently there was reported throughout a belt of country extending from Ogden, Utah, to Evanston, Wyoming, a shower of rain so strongly impregnated with salt that the clothes of persons upon whom it fell were, when dried, thinly crusted with a white powder, which was nothing but common salt. Umbrellas were quite white with it, and panes of glass in the windows were rendered for the time opaque. According to a local account the whole town of Evanston looked as if it had been whitewashed. When the sky cleared the roofs glistened in the sun as if frozen with snow. A local man of science estimated that in the city of Evanston an amount of salt equivalent to twenty-eight tons had fallen. The shower lasted about two hours, and during all this time the rain which fell was saline. This phenomenon is far from being a new one. The wind was from the west, and all rains which are impregnated with salt in that region come from that quarter. The cause of them is not hard to find. It is simply the Great Salt Lake of Utah—that vast body of intensely salt water out of which, under favorable conditions, a considerable quantity of salt may be taken up into the atmosphere, to be precipitated later upon the surrounding country.

CAPT. WILLIAM B. HILLER of New York states that on July 1 last he discovered, some 500 miles off the coast of Labrador, the celebrated Leary raft, which was lost some years ago. It was headed southwest, he says, but was not making much headway. The raft is larger than any ocean liner, and it would be an ugly customer to meet under the conditions of a twenty-knot gait and a dark night. Other mariners and the collector of New York laugh at him and declare the raft broken up long ago. James D. Leary of St. John dock fame, who first conceived the plan of transporting lumber at sea by means of a raft, was recently interviewed. "I think Capt. Hiller's story to be very probable. I was employed personally in the construction of this raft, and I know that it was constructed as strong as—if not stronger than—many ocean steamers. Its general compactness and solidity made it almost as inseparable as one great, massive log."—Northeast Lumberman.

THE automatic machine idea has been turned to new account in Italy. Put a coin in the slot and take out a receipt and the thing is done. The workingman's "honest penny" is banked without the trouble of going to a savings bank or postoffice. When a sufficient number of receipts have been collected they can be exchanged for a "libretto" at the regular savings bank. Interest at 4 per cent is paid on deposit, and the depositors are entitled to a share of the profits derived from the bank's operations.

A THOUGHT-WEIGHING machine has been invented by Prof. Mosso, the Italian physiologist, the rush of blood to the head turning the scale. The machine is said to be so delicate that it can measure the difference in the exertion needed to read Greek from that required for Latin.

THIRTY-NINE MILES an hour was made by a special car on the Akron, Bedford & Cleveland Electric Railroad, between Cuyahoga Falls and Newburg, Ohio, recently.

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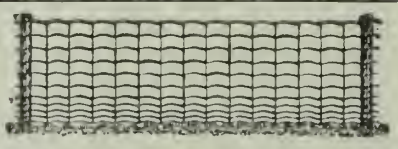

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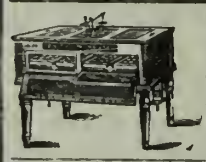

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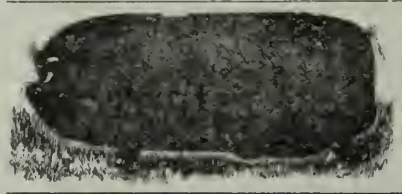

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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Nov. 11, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	100,787	2,426,907	1,682,743
Wheat, ctls.	307,754	5,496,730	3,604,845
Barley, ctls	152,034	3,083,512	1,615,223
Oats, ctls	24,370	245,810	291,617
Corn, ctls	1,795	57,010	52,611
Rye, ctls	975	66,303	14,267
Beans, sks	29,906	321,661	255,968
Potatoes, sks	27,429	410,070	399,778
Onions, sks	2,902	64,971	53,780
Hay, tons	1,784	68,908	67,692
Wool, hales	1,469	27,049	35,352
Hops, hales	607	5,058	7,029

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	65,096	1,932,296	1,186,275
Wheat, ctls	254,830	5,168,549	3,676,022
Barley, ctls	131,251	2,345,763	1,105,675
Oats, ctls	1,071	11,069	9,092
Corn, ctls	288	4,709	7,747
Beans, sks	802	151,268	91,441
Hay, hales	3,381	19,747	17,221
Wool, lbs	....	3,488,112	6,219,200
Hops, lbs	167	363,280	492,053
Honey, cases	3	1,213	4,825
Potatoes, pkgs	167	32,797	53,993

Grain Freights and Charters.

There is no improvement to note in the market for grain charters, and not likely to be any in the near future. Wheat has at present the advantage, and holders of the same are not slow to exact all that it is possible to squeeze. This is only natural. When ship owners have the whip hold, they do not hesitate to crowd wheat to lower prices than it can be produced for. Handy iron ships were offered this week for wheat at £1 2s 6d to either Liverpool or Sydney direct, being equivalent to £1 5s to Cork, U. K. for orders, usual option, but this figure was more than was warranted by prices demanded here for wheat and values current abroad. For a large iron ship £1 2s 6d was accepted to Cork for orders.

Charters.

British bark British Princess, 1480 tons, wheat to Sydney, £1 2s 6d.

Norwegian steamer Guernsey, 1838 tons, wheat to St. Vincent, £1 8s 9d; if to two ports, £1 10—chartered prior to arrival.

British ship Glencona, 2489 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d; direct port, 7½s less—chartered prior to arrival.

British ship Windermere, 2840 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 2s 6d; direct port, £1 1s 3d.

British bark Edinburgshire, 1277 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d—chartered prior to arrival.

British ship Auchencairn, 1925 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d; direct port, £1 6s 3d—chartered prior to arrival.

German ship Niobe, 1984 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d; direct port, £1 6s 3d—chartered prior to arrival.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive.
1896	74,000	39,691	240,663
1895	82,844	11,367	275,765

Flour.

The market shows a generally healthy state in sympathy with wheat. There are no heavy supplies of flour now in stock here, either of local or outside mills. Holders generally prefer to carry stocks, rather than to make any noteworthy concessions from full current rates. While trade is not particularly brisk, there is a fair demand, both on local account and for shipment.

Superfine, lower grades	$2 90@3 15
Superfine, good to choice	3 20@3 35
Country grades, extras	4 00@4 25
Choice and extra choice	4 25@4 50
Fancy brands, jobbing	4 50@4 75
Oregon, Bakers' extra	4 00@4 25
Walla Walla, Bakers' extra	4 00@4 25

Wheat.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	5s 4½d@5s 5½d.	7s 6d@7s 7d.
Freight rates,	26¼@27½s.	22½@—s.
Local market,	$0.95@97½	$1.47½@1.52½

The prices above are for spot lots of standard No. 1 California in Liverpool, and for good to choice shipping in this city.

While there has been no lack of inquiry for wheat on export account, ships being on berth loading for both Europe and Australia, the stiff views of holders and the rather limited stocks have operated against much activity being experienced. If wheat values can be crowded this season to much higher points than have been lately established is a question which can be argued both ways and in equally plausible manner. The future is dependent on so many contingencies that, were the exact facts known as to the actual supplies available in exporting countries and the absolute needs of importing countries, it would still be impossible to definitely outline the market for any great length of time. Wheat is now bringing profitable figures, and if something near existing values can be obtained by the growers for coming crops, with favorable seasons the wheat farmer will have little or no cause to complain. Choice and heavy wheat, desirable for milling, was held up to $1.52½@1.55 most of the time, and round lots of desirable shipping were not as a rule obtainable under $1.50, delivered alongside vessels. Options fluctuated considerably, as for some weeks preceding, but the tendency was against buyers at the close of last week, with final sales of May wheat on Saturday at $1.53¼. There was further hardening in speculative values Monday, December wheat selling up to $1.47½, and May closing at $1.54⅞ after touching $1.56. Spot market was correspondingly strong. Tuesday the market continued to improve, May wheat touching $1.58⅜, but there was more ease Wednesday for options, with Eastern and foreign markets lower, Chicago declining about 2c per bushel. May wheat here declined about 1¼c per cental. Spot market remained against buyers.

California Milling	$1 47½@1 55
Cal. No. 1 shipping, alongside	1 47½@1 50
Oregon Valley	1 42½@1 50
Walla Walla Blue Stem	1 32½@1 52½
Walla Walla Club	1 32½@1 47½

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, $1.39@1.52.

May, 1897, delivery, $1.45½@1.58⅜.

Wednesday, at regular noon session of Call Board, December wheat sold at $1.51@1.52; May, $1.55¾@1.58.

Barley.

There is not much barley of any sort moving outward at present, and shipments during the balance of the season will be likely confined mainly to small lots to the Hawaiian Islands. Although there are no evidences of very heavy stocks remaining in the State, the recent rainy weather gives quite favorable prospects for coming season and tends to impart an easy tone to the market. It is yet early, however, to make any predictions concerning coming crop. The outlook may in turn be gloomy and brilliant a number of times before another harvest rolls around. Chevalier is now virtually out of stock and hardly quotable in a regular way. Brewing barley is offering in moderate quantity, and there is no scarcity of feed descriptions, especially of common to fairly good qualities.

Feed, No. 1 to choice	82½@87½
Feed, fair to good	77½@82½
Brewing, No. 1 to choice	87½@92½
Chevalier, No. 1 to choice	1 05@1 15
Chevalier, No. 2	80 @90

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, 84⅝@86½c; May, 1897, delivery, 91⅞@93½c.

Wednesday at regular noon session of the Call Board, December feed sold at 86⅜@86½c; May feed at 93½c.

Oats.

Market is moderately firm, particularly for the better grades, such being in good request, with offerings not very heavy. Oats have been coming forward lately in tolerably large quantity from Washington, Utah and other producing sections, but most of these oats were purchased prior to their arrival by large consumers and dealers, and in consequence there has been little or no opportunity for values to be materially depressed.

White Oats, fancy feed	1 25 @1 30
White, good to choice	1 15 @1 22½
White, poor to fair	1 00 @1 05
Gray, common to choice	1 10 @1 20
Milling	1 20 @1 30
Surprise, good to choice	1 25 @1 35
Black Russian	1 15 @1 25
Red	1 00 @1 10

Corn.

There is much the same quiet state of trade in this cereal as noted in previous review. Large White is not much sought after, and market for this variety is the weakest of the list. Large Yellow is in fair request, but offerings are proving more than ample for the inquiry. Small Round Yellow is being offered very sparingly, and is readily salable at full current rates, being in fair demand.

Large White, good to choice	87½@ 92½
Large Yellow	87½@ 92½
Small Yellow	1 00 @1 05

Rye.

A part cargo of 1979 tons, valued at $36,320, was cleared this week for Belgium. Recent shipments to Europe have relieved the market of most of the surplus. Values are steady.

Good to choice, new	1 07½@1 12½

Buckwheat.

There is a local demand for stocks of desirable quality offering within range of the quotations noted.

Good to choice	1 10 @1 20
Silverskin	1 15 @1 25

Beans.

The Eastern bean market is thus summarized by a New York authority. Prices quoted are per bushel of 60 lbs:

There has been a quiet trade this week in domestic Marrow beans, but values have not changed. Export orders were light and jobbers seemed to give more attention to small white beans. For the choicest lots of new $1.60 is asked and obtained in a small way, but there has been no difficulty in securing the best old at $1.50. Medium have held firm because of the scarcity of stock, at the same time demand is very light, receivers finding that much of the trade is giving the preference to Pea at the difference in price. A fair quantity of Pea has been moved at $1.25 for choice lots of both new and old; the latter are getting pretty well used up. Exporters have not had important orders for Red Kidney, but there has been a confident holding with choice old drawing close to new; the latter are held at $1.60, and 100 bbls. of best old sold at $1.50. Only a few White Kidney are here and not much inquiry for them at present. A little more is asked for Yellow Eye because of the firmer Eastern advices, but there is hardly enough doing here to establish values; stocks very small. Turtle Soup entirely nominal for want of supplies. Further considerable arrivals of California beans; Lima have sold fairly at $1.50 until near the close when there has been pressure to increase the trade and slight concessions have resulted. Lady Washington jobbing moderately at $1.15@1 20 as to quality. Green Peas quiet and barely steady; Scotch rather firm.

Offerings from first hands are moving rather slowly here at present, and in the main at easier rates than had been ruling. Nearly all white beans have been inclining against sellers, with market especially easy for ordinary qualities of Lady Washington, Small White and Small Butter. Arrivals of colored beans have been mainly Pinks, and sales of these were mostly at low figures, some of quite poor quality going at less than inside quotation. Bayos are not in large supply and are being held tolerably firm. Limas remain about as last quoted, with trading in them mostly at points of production in the southern part of the State, where they are forwarded direct to Eastern centers.

Pea, fair to good, 100 lbs	$1 40 @1 60
Small White, good to choice	1 30 @1 50
Lady Washington	1 25 @1 35
Butter, small	1 10 @1 25
Butter, large	1 40 @1 50
Pinks	1 10 @1 25
Bayos, good to choice	1 40 @1 50
Reds	1 25 @1 35
Red Kidneys	2 25 @2 50
Limas, good to choice	1 90 @2 10
Black-eye Beans	1 15 @1 30
Horse Beans	1 00 @1 10
Garbanzos, large	2 25 @2 50
Garbanzos, small	1 50 @1 75

Dried Peas.

No evidence of any business of consequence in dried peas of either variety. Fortunately, there are not many arriving. Most of this season's offerings of Green Dried have contained too great a percentage of moisture to be salable to advantage.

Green Peas, California	$1 15 @1 30
Niles Peas	1 10 @1 25

Hay and Straw.

Arrivals of hay have been sufficient to supply the demand, with some to spare. There has been little or no firmness observable. Common grades were especially difficult to place, even at low figures. Quotations remained about as last noted, with concessions in favor of the buyer the rule rather than the exception.

Wheat	8 00@11 00
Wheat and Oat	6 50@10 00
Oat	6 00@ 8 50
Barley	6 00@ 8 00
Clover	5 00@ 7 50
Stock Hay	4 50@ 5 50
Alfalfa, first cutting	4 50@ 5 50
Alfalfa, second cutting	6 00@ 7 00
Compressed	6 00@ 9 50
Straw, ℔ bale	35@ 45

Wool.

This market shows a generally healthier tone than for some months past, with prospects good for a speedy revival of trade. Dealers here are now anxiously watching

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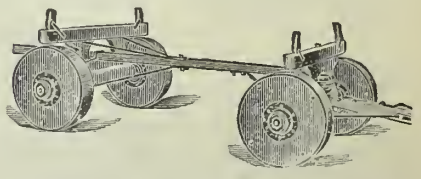

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events in Eastern manufacturing centers. As soon as there is a revival of business there, it is reasonably certain that an improved demand will be experienced here. No very sharp advances in values should be anticipated, however, as the country is heavily stocked with foreign wools and woolens, some of the latter the veriest kind of shoddy, and these will have to be gotten out of the way before prices for domestic can materially improve.

SPRING.

Humboldt and Mendocino	— @—
Northern California free	— @—
Northern defective	— @—
San Joaquin Foothill, good to choice	— @—
San Joaquin, 12 months	— @—
San Joaquin and Southern, 6 months	— @—
Nevada, as to condition	7 @ 9
Oregon Valley, select	9½@11
Oregon Valley, low grade	8 @ 9½

FALL.

Northern California free	6½@ 8½
Northern defective	5 @ 7
Middle Counties free	6½@ 8
Middle counties defective	5½@ 6½
San Joaquin and Southern	3½@ 5

Hops.

State advices by mail from New York contain the following concerning the Eastern hop market:

Stock is beginning to arrive freely but at least one-half of the receipts were for direct exportation, and the balance have been taken care of easily. In fact the offerings here from day to day have been light and with continued good demand for the best grades the market has ruled higher and firm. The strongest feature has been the call from exporters, and while that inquiry lasts it will largely influence values for choice quality. Brewers are buying moderately, and some of the dealers who are short on contracts have tried to cover. Altogether fair business is doing and the feeling is one of confidence at the higher rates quoted. Pacific Coast hops have the call at present and take the lead in price; sales of strictly choice lots reported at 12c and that price has been bid and refused for favorite growths. If the State hops were fine enough they would command about the same rate, but average choice lots are selling at 11@11½c, with other qualities ranging downward about as quoted. The firmness in '96 hops makes a little stronger holding of yearlings and older growths, but not much business is doing at present. The markets in the interior of the State have been gradually hardening, under quite lively buying; sales at 8@10½c., the bulk at 9@10c. On the Pacific Coast a further advance has been made; 10c. is freely bid with talk of 10½c. England holds firm. German markets have further declined.

This market is showing more firmness, with fairly active inquiry for choice to select, which are wanted for shipment to Europe. Common qualities are not receiving much attention, and the latter constitute the bulk of offerings. With values at such extremely low and unprofitable figures as have been ruling for the past two seasons or more, growers in many instances have become careless in packing and curing.

Fair to choice, 1896 crop	9 @11½

Millstuffs.

The tendency on Bran and Middlings has been to better prices, particularly on the latter. Values for Rolled Barley and milled Corn were without important changes.

Bran, ₱ ton	11 50@13 00
Middlings	16 00@18 00
Barley, Rolled	18 00@19 00
Cornmeal	20 00@21 50
Cracked Corn	20 50@21 00

Seeds.

Mustard Seed has been in fairly liberal receipt for the week under review, but represented mainly prior-arrival purchases. The market is firm at the last noted advance. Business in other seeds is in the main of a light order and within range of unchanged quotations. Alfalfa seed is still obtainable at comparatively easy rates, although a fraction higher than last quoted.

	Per ctl.
Mustard, Yellow	2 00@2 25
Mustard, Trieste Seed	3 00@3 25
Mustard, Wild Brown	2 25@2 50
Flax	1 35@1 50

	Per lb.
Canary	2½@2¾
Rape	2½@2½
Hemp	3¼@3½
Alfalfa, Utah	6 @6½

Bags and Bagging.

There is no change to note in the condition of the grain bag market. Business in this line is stagnant at present. The few orders arriving for wool sacks and other bags and bagging are being filled at practically unchanged figures.

Grain bags, 22x36, spot	4¼@ 4½
Wool sacks, 4 lb.	28 @—
Wool sacks, 3½ lb	26 @—
Gunnies	9 @—
Bean bags	4 @ 4¼
Fruit sacks, cotton	5½@ 7½

Hides, Pelts and Tallow.

Hide market is showing more firmness, with prospects of inclining in sellers' favor for some weeks to come. Pelts are commanding steady rates. Tallow is going at slightly better figures.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	8 @ 8½	7 @ 7½
Medium Steers, 48 to 56 lbs	7 @ 7½	6 @ 6½
Light Steers, under 48 lbs	6 @ 6½	5 @ 5½
Heavy Cow Hides, over 50 lbs.	6 @ 6½	5 @ 5½
Light Cow Hides, under 50 lbs.	6 @ 6½	5 @ 5½
Wet Salted Kip	6 @ 7	5 @ 6
Wet Salted Veal	6 @ 7	5 @ 6
Wet Salted Calf	7 @ 8	6 @ 7
Dry Hides, round lots, 8@10c.	— @13	— @10
Dry Kip and Veal, 11 to 16 lbs.	— @10	— @ 8
Dry Calf, under 4 lbs	— @15	— @10

Horse Hides, large dry	75@ —
Horse Hides, large, wet salted	75@1 00
Horse Hides, medium	50@ —
Horse Hides, small	25@ —
Colts' Hides	25@ —
Pelts, long wool, per skin	50 @60
Pelts, medium, per skin	40 @50
Pelts, short wool, per skin	20 @35
Pelts, shearling, per skin	10 @15
Deer Skins, best summer	20 @25
Deer Skins, good medium	15 @20
Deer Skins, thin winter	7 @ 9
Elk Hides	7½@ 9
Tallow, good quality	3 @—
Tallow, No. 2	2½@—
Goat Skins, perfect	20 @35
Goat Skins, damaged	10 @20
Kid Skins	5 @—

Honey.

Arrivals since last report have not been heavy. Spot supplies are largely comb honey, for which there is little other than local demand. Values for both comb and extracted are steady at the quoted range.

White Comb, 1 lb frames	10 @—
Amber Comb	7½@ 9
Extracted, White Liquid	5¼@ 5¾
Extracted, Light Amber	4½@ 5
Amber Colored and Candied	3¾@ 4¼
Dark Tule	2¾@ 3

Beeswax.

There is no surplus of offerings of choice qualities, such meeting as a rule with prompt custom at full current rates.

Fair to choice, ₱ lb	25 @27½

Live Stock and Meats.

Hog market is still more favorable to sellers than at date of previous review, medium and large hogs in fat condition continuing in good request. Beef and mutton have been going at about former prices. Following are wholesale rates:

Beef, 1st quality, dressed, net ₱ lb	5 @—
Beef, 2d quality	4 @ 4½
Beef, 3d quality	3½@—
Mutton—ewes, 4@5c; wethers	5 @5½
Hogs, hard grain fed, medium size, fat	3⅝@ 3½
Hogs, large hard	3⅜@ 3½
Hogs, soft and feeders	— @—
Hogs, country dressed	4¼@—
Veal, small, ₱ lb	5 @ 6
Lamb, spring, ₱ lb	5 @ 6

Poultry.

Arrivals of both Pacific Coast and Eastern poultry were less excessive, as compared with the demand, than for a fortnight or more preceding. A generally better tone prevailed, and for most kinds in prime condition better average prices were realized than during previous week. Dressed turkeys, large young and fat, were in good request, with some sales of fancy stock up to 17c@18c, but these figures were exceptional and not quotable in a regular way. In the chicken market extra large and fat hens received the preference and sold above quotations.

Turkeys, dressed, per lb	13@ 15
Turkeys, live hens, ₱ lb	11@ 12
Turkeys, live gobblers	11@ 12
Turkeys, large young	12@ 13
Hens, Cal., ₱ doz	4 00@4 50
Roosters, old	3 50@4 00
Roosters, young, (full-grown)	3 50@4 50
Fryers	2 75@3 25
Broilers, large	2 75@3 25
Broilers, small	2 25@2 50
Ducks, young, ₱ doz	3 00@4 00
Ducks, old	3 00@4 00
Geese, ₱ pair	1 25@—
Goslings, ₱ pair	1 50@1 75
Pigeons, Old, ₱ doz	1 00@—
Pigeons, Young	1 25@1 50

Butter.

As there is every prospect of an abundance of fresh grass at an early day, and as there are a large number of cows now calving in the dairy sections of the counties bordering on San Francisco bay, the market naturally has a weak tone. The quantity of butter now arriving is not heavy, but both jobbers and retailers are carrying as light stocks as possible, not wishing to be caught with heavy supplies on a falling market. There is considerable packed butter still offering, and market for same lacks firmness.

Creamery extras, ₱ lb	24 @25
Creamery firsts	23 @24
Creamery seconds	22 @23
Dairy select	22½@—
Dairy seconds	15 @17
Dairy, soft and weedy	— @—
Mixed store	11 @13
Creamery in tubs	15 @17
Pickled roll	15 @17
Dairy in tubs	14 @16
Firkin, Cal., choice to select	14 @16
Firkin, common to fair	11 @12½

Cheese.

Fancy new continues in limited stock, and such is salable to advantage, commanding in a small way to special custom higher figures than are warranted as a quotation. Other grades are in light demand, and in ample supply for immediate needs.

California fancy flat, new	9½@10½
California, good to choice	8½@ 9½
California, fair to good	7½@ 8½
California, "Young Americas"	9 @11

Eggs.

There are no large receipts of fresh eggs from interior of this State, or from any Pacific coast point, but prospects are favorable for a material increase in arrivals soon. The market is showing a little easier tone than for the past few weeks, even strictly gilt-edge stock going at a reduction of 1 to 2c per dozen, from the rates that had been ruling. Retailers are running largely on Eastern and cold storage, and in some instances are selecting the best of these and making them pass for fresh, direct from ranch. Eastern are still arriving freely, and are offering in the main at easy figures, although Eastern markets are reported firmer.

California, select, large white and fresh	36 @—
California, select, irregular color & size	30 @34
California, good to choice store	25 @27½
California, common to fair store	18 @23
Oregon, prime	— @—
Eastern, as to section and grading	24 @28
Eastern, seconds	16 @19
Duck eggs	25 @—

Vegetables.

The assortment is showing some reduction as is customary for this time of the year, and it is the exception where large quantities of any variety are offering. Onions showed less excessive supply and brought a better price. Corn is now practically out, and tomatoes will soon follow.

Asparagus, Fancy, ₱ box	—@— —
Asparagus, common to good, ₱ box	—@— —
Beans, String, ₱ sack	—@— —
Beans, Wax, ₱ lb	—@— —
Beans, Garden, ₱ lb	2½@ 3
Beans, Lima, ₱ lb	2½@ 3
Cabbage, choice garden, ₱ 100	50@ 60
Cauliflower, ₱ doz	40@ 50
Corn, Alameda Sweet, ₱ crate	—@— —
Corn, Berkeley, ₱ crate	—@ —
Corn, Green, ₱ sack	—@— —
Corn, Vacaville and Winters, ₱ crate	—@— —
Cucumbers, Alameda, large box	30@ 40
Egg Plant, ₱ box	25@ 40
Garlic, ₱ lb	1½@ 2
Mushrooms, Buttons, ₱ lb	20@ 25
Mushrooms, Wild, ₱ lb	15@ 20
Okra, Green, ₱ box	50@ 75
Onions, Red, ₱ cental	—@ —
Onions, Yellow, good to choice	35@ 50
Peas, Green, ₱ lb	2½@ 3½
Peppers, Green Chile, ₱ box	25@ 50
Pepper, Bell, ₱ large box	40@ 50
Pickles, No. 1, ₱ 100 lbs	—@— —
Pickles, No. 2, ₱ 100 lbs	—@— —
Rhubarb, ₱ box	—@ —
Squash, Summer, ₱ large box	1 00@ 1 25
Squash, Cream, ₱ box	20@ 35
Tomatoes, River, per large box	—@ —
Tomatoes, Bay, ₱ box	35@ 50

Potatoes.

Common qualities of Burbank Seedlings are being offered freely, with demand for them slow, and prices continue at a low range. Transfers of some very inferior have been made at less than lowest quotation. Choice to select Burbanks sell tolerably well, with no large offerings of this sort. Reds and Early Rose are being rather steadily held. Sweet potatoes are in ample stock, and market easy, demand being principally local.

IN SACKS.

Early Rose, River, ₱ cental	25@ 35
Peerless, River	—@ —
Reds, River	35@ 50
Garnet Chile, Mission	40@ 50
Burbanks, River	20@ 35
Burbanks, Salinas	60@ 90
Burbanks, Oregon	50@ 75
Sweet Potatoes, Sacramento	75@1 00
Sweet Potatoes, Merced	1 00@1 25

The Fruit Market.

Fresh Fruits.

The fresh fruit market has been more lightly stocked the past week than for several months preceding. Not only did the aggregate of offerings show marked decrease, but a number of varieties which were lately in season have wholly disappeared from the market.

Apples were in moderate supply, with a large proportion of stocks of only fair to medium quality, and for latter sorts the market was lacking in firmness. Choice to select were salable to fair advantage, with supplies slim of such stock as would come up to latter description. Apples which could be rightly termed fancy were held as a rule at extreme rates quoted or higher.

Pears did not make a large display, and aside from the Winter Nelis variety there were very few which were attractive to the eye or palate. Some of the Winter Nelis were quite ordinary, and such had to go at

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Salmon, new pack, 1 lb. tins, pink color, very nice, per doz $1.10
Onions good sound, No. 1 yellow Onions, selected per 100 lbs ..... .55
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rather low figures, while strictly select brought as a rule very good prices and did not lack for custom. Naturally, there was a tolerably wide range in values.

Persimmons were in light receipt, and it was the exception where they were sufficiently ripe to be desirable. Prices were consequently at a low range. Pomegranates were not plentiful, but market for them continued favorable to buyers, with demand slow.

Berries made a poor showing most of the week, owing to unfavorable weather. Strawberries and raspberries ruled higher, with market firm for best qualities. Blackberries were out. Huckleberries were in too slim receipt to be quotable.

Grapes arrived rather sparingly, and bid fair to be in slim receipt during the balance of the season. Improved prices were realized, and market was firm at the advanced figures for offerings of desirable table fruit in prime condition. Winc grapes were hardly worth quoting. A few second crop Zinfandel were offering, but aside from these the quality was eitber too poor or the quantity too slim for any noteworthy business to be transacted.

Apples, fancy, 4-tier, per box	1 00@ 1 25
Apples, good to choice, 50-lb box	75@ 90
Apples. fair to good, 50-lb box	50@ 75
Apples, c mmon, ₱ 50-lb box	25@ 40
Pears, Winter Nelis, per box	50@ 1 25
Pears, other kinds, ₱ box	40@ 75
Pomegranates, ₱ box	40@ 75
Quinces, ₱ box	—@ —
Nutmeg melons, ₱ box	20@ 35
Cantaloupes, per crate	30@ 75
Berries.	
Blackberries, ₱ chest	—@ —
Currants, Red, ₱ chest	—@ —
Raspberries, ₱ chest	7 00@ —
Strawberries, Longworth, ₱ cbest	—@ —
S rawberries, Large, ₱ chest	5 00@ 7 00
Whortleberries, ₱ lb	—@ —
Grapes.	
Black Hamburg, ₱ box	50@ 60
Cornichon, ₱ box	50@ 60
Fontainebleau, Cal., per crate	—@ —
Fontainebleau, Cal., per box	—@ —
Isabella, ₱ crate	—@ —
Muscat, per box	50@ 60
Muscat, ₱ cratc	60@ 75
Muscat, ₱ ton	—@ —
Mission, per ton	—@ —
Rose of Peru, ₱ box	50@ 60
Rose of Peru, ₱ crate	60@ 75
Royal Isabella, ₱ crate	—@ —
Seedless Sultana, ₱ box	—@ —
Tokay, ₱ crate	5 @ 60
Zinfandel, ₱ ton	20 00@25 00

Dried Fruit.

Mail advices of recent date give the following report of the New York dried fruit market:

The market has sbown very little change in evaporated apples this week. There has been some buying to complete contracts, but as a rule tradc is very light and confined to small jobbing sales. Some extra fancy are held slightly above 5¼c, but that figure usually extreme, with 4½c equally high for choice, while 4c continues the current rate for prime, tbough some bolders would accept a fraction less. Scarcely anything doing in sun-dried apples, and quotations largely nominal. Chops are held about steady, but movement light. Cores and skins scarce and firm The few peacbes here are held at 7@8c, but demand limited. Cherries have cleaned up quite closely, and are very firm. Very few raspberries offering, and, witb strong interior advices, 16c has become the general asking price. Huckleberries in moderate demand, but held steady. Blackberries have bad a fair call and tone firmer, with small sales reported above outside quotation. California fruit in active demand and firm at ranges given.

Apricots, Cal. Royal, bxs., 1896, per lb	10 @12
Apricots, Cal. Royal, bags, 1896, per lb	9½@11½
Apricots, Cal. Moorpark, 1896, bxs	12 @14
Peaches, Cal., 1896, unpeeled, lb	6 @ 9
Prunes, Cal., 1896, as to size	4 @ 8

The dried fruit market in this center is showing in the main a healthy tone, although there is no great activity to record. Owing to the firmness with which most descriptions are at present held, and the absence of heavy stocks, it is not surprising that tbe market is showing only a moderate amount of life. Some of the Eastern dealers are slow to adapt themselves to the new order of things, and make purchases f. o. b. here instead of receiving the goods on consignment. But the new system is in the interest of the Eastern dealer as well as of the California producer. When consignments were made East to Tom, Dick and Harry, no Eastern dealer could rest assured that prices he had purchased at would he maintained twenty-four hours ahead, but with no shipments made, except of purchased goods, the Eastern dealer is protected, and need have no fear that he will have to compete, as formerly was often the case, against unscrupulous parties, who sold goods at ruinously low figures, having no care or interest beyond realizing their commission.

Quotations show few changes. To purchase freely, full current figures or more would have to be paid, while to find prompt sale, prevailing quotations would in most instances probably have to be shaded slightly in favor of the buyer.

Apples are offering in moderate quantity from the East, and are apt to arrive liberally before the season closes, as there is a big yield on the Atlantic side. This market under the circumstances, could not well do otherwise than incline against sellers.

Peaches are being as a rule very steadily held, with stocks not heavy enough to justify holders in displaying any uneasiness. In sympathy with peaches, values for White Nectarines are being are being sustained at about same range last quoted.

Pears remain in about same position as quoted a week ago, with not many choice to select on hand, and few of any other sort required for.

Prunes are probably in better supply than any other variety, hut values are as a rule being well sustained, holders showing no inclination to cut rates in any noteworthy fashion in order to effect free sales.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	7½@ 8
Apricots, Royal, fancy	9 @10
Apricots, Moorpark	10 @12½
Apples, in boxes	5½@—
Nectarines, White	5 @ 5½
Nectarines, Red	4 @ 5
Peaches, unpeeled, prime to choice	5 @ 6
Peaches, unpeeled, cbolce to fancy	6 @ 7
Peaches, peeled, in boxes	11 @12½
Pears, peeled and sliced	4 @ 5
Pears, unpeeled Bartletts, balved, fancy	6½@ 7
Pears, balved, unpeeled Bartletts	4 @ 5
Pears, quartered, unpeeled Bartletts	4 @ 5
Plums, pitted	4 @ 5
Prunes, in sacks, 4 sizes	3½@—
Prunes, in sacks, small sizes	2½@—
Prunes, Silver	7½@ 8

COMMON SUN-DRIED.

Apricots, ordinary	5½@ 7
Apples, sliced	2½@ 3
Apples, quartered	3 @ 3¼
Figs, Black	2½@ 3
Figs, White	3 @ 4
Plums, unpitted	1½@ 2

Raisins.

There is mnch the same strong tone to the raisin market as previously noted, with nothing to warrant anticipating much lower prices during the balance of the season than are now established. If the bulk of the crop is not out of growers' hands before the close of the year, it will not be on account of lack of demand. Seedless Muscatel and Sultanas are difficult to secure in anything like wholesale quantity. Clusters in boxes are in light stock. Loose Muscatel coming forward are largely two and three crown.

FRESNO DELIVERY, F O. B

Imperial Clusters, per box	3 00@— —
Dehesa Clusters, per box	2 50@— —
Fancy Clusters, per box	1 60@ 1 75
Boxes, London layers, 20-lb box	1 20@ 1 25
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ₱ lb	5¼@5½
Loose Muscatel, 3-crown	4¼@4½
Loose Muscatel, 2-crown	3⅜ @ 3½
Sultanas	5½@5¾
Seedless Muscatel	4 @ —
Dried Grapes	3 @ —

Citrus Fruit.

A few new crop oranges arrived form Porterville this week, heing the first of the season. For Navels $7 per box was realized and Mediterranean Sweets were held at $4. Lemon market is without appreciable change, stocks being of fair proportions with the demand light. Only choice to select, well cured, can be depended on to bring full prices,

Oranges—Wash. Navels, ₱ box	5 00@ 7 00
Cal. Mediterranean Sweet	3 00@ 4 00
Cal. Seedlings	— —@— —
Cal. Valencias	— —@— —
Grape Fruit, ₱ case	— —@— —
Lemons—Cal., select, ₱ box	2 50@ 3 00
Cal, good to choice	1 50@ 2 00
Cal., common to good	1 00@ 1 50
Limes—Mexican, ₱ box	4 50@ 5 00
Cal., small box	75@ 1 25

Nuts.

Market for almonds shows steadiness for best qualities, these being in fair request. There are some offering which are more or less defective, and such are difficult to place at satisfactory rates. White walnut market is strong, with most of this seasons's yield already in the hands of the jobbing and retail trade.

California Almonds, paper shell	8½@ 9½
California Almonds, soft shell	7 @ 8
California Almonds, standard	5 @ 6
California Almonds, hard shell	4 @ 5
Walnuts White, paper shell	10 @11
Walnuts White, soft shell	9 @10
Walnuts White, Cal., hard shell	7 @ 8
Chestnuts, Cal. Italian	8 @10
Peanuts, Cal., fair to prime	4 @ 5
Peanuts, Eastern hand-picked	5 @ 5½
Pine Nuts	10 @12

California Dried Fruit at New York.

NEW YORK, November 7.—Apricots—Bags, 9@11c. Peaches—Peeled, 13@14c: unpeeled, 7@9c. Prunes—Four sizes, nominal at 5½@5¾. Raisins—Two-crown, L. M., 4¾c; do three-crown, 5¾c; do four-crown, 6¾c; do London Layers, old, $1.15@1 25; do new, $1.35@1.40; do clusters, old, $1.25@1.40.

NEW YORK. Nov. 10.—Apricots—Bags, 9@11c. Peaches—Peeled, 13 @ 14c; do unpeeled, 7 @ 9c. Prunes—Four sizes, nominal, 5½@5¾c. Raisins—Two-crown, L. M., 4¾c; do three-crown, 5¾c; do four-crown, 6¾c; London Layers, new, $1.50; clusters $1.60@2.

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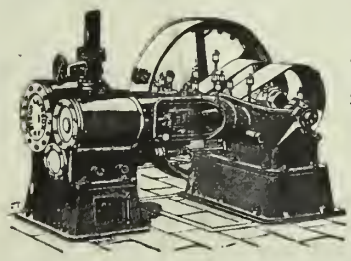

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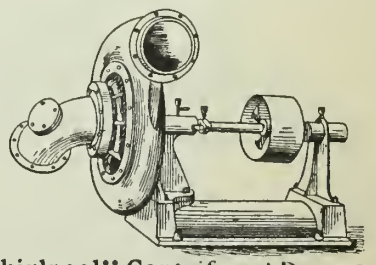

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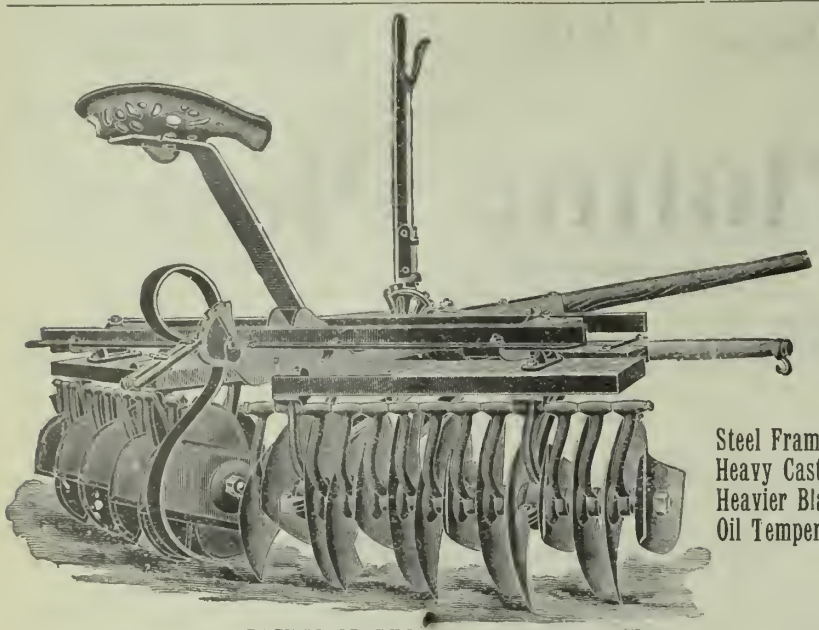

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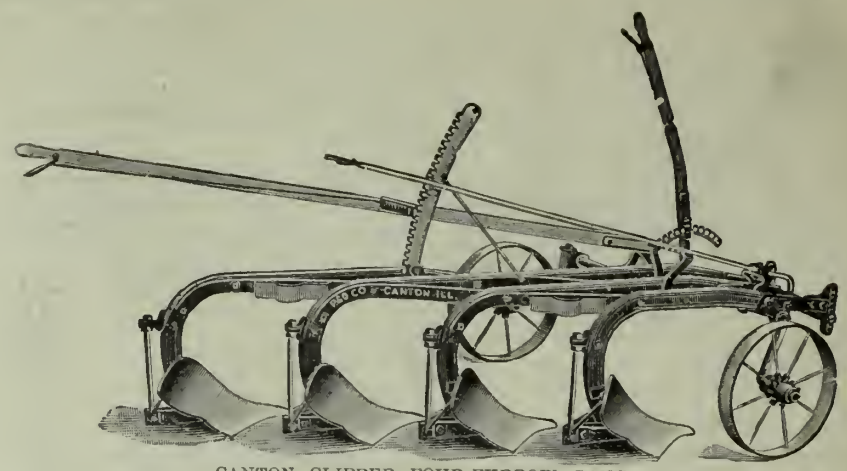

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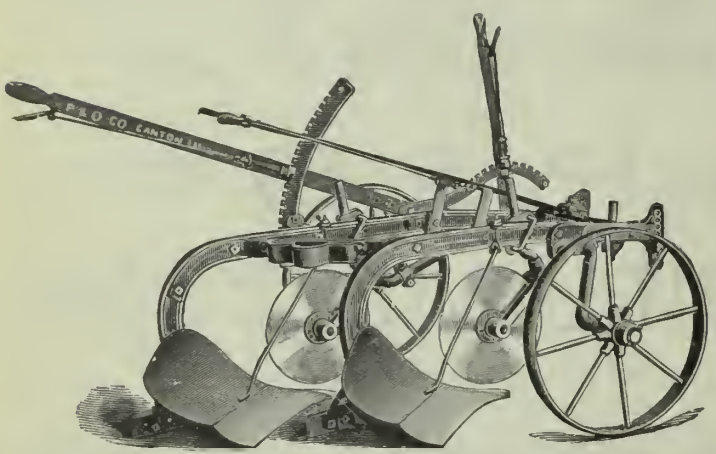

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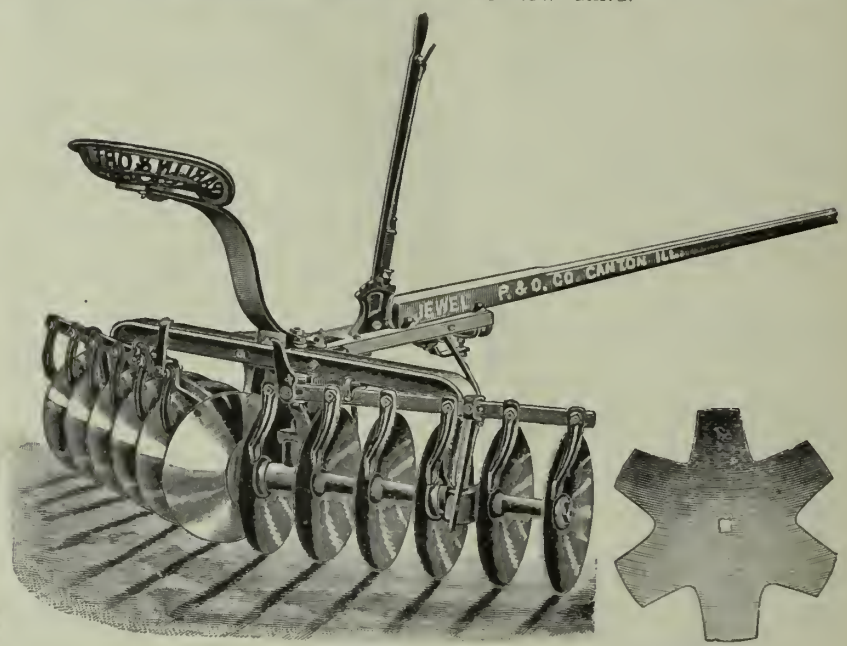

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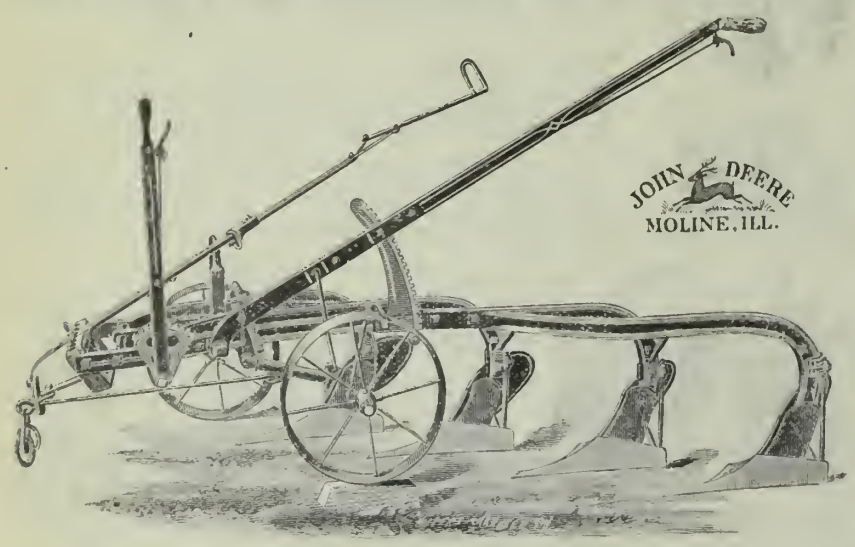

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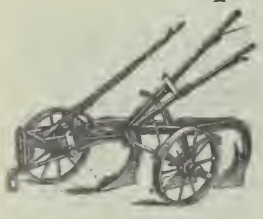

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THE PACIFIC RURAL PRESS
AND CALIFORNIA FRUIT BULLETIN.

Vol. LII. No. 21. SAN FRANCISCO, SATURDAY, NOVEMBER 21, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.

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Hillside Irrigation.

California has done much in the improvement of hillsides for fruit growing, and many different methods of water distribution are employed. Some of these have been previously illustrated and described in the columns of the RURAL. The engraving on this page shows two methods as employed on adjacent hillsides and is reproduced from a brief account of California irrigation published in the last Year Book of the Department of Agriculture.

On the left of the engraving is a slope carefully terraced along contour lines. The water is taken from the ditch at the highest point of the hillside, the slope being cut into a regular system of level terraces, each bench having a small ditch at the foot of the slope on the inside and a slight embankment on the outside of it. The ditch catches the water as it comes trickling slowly down the steep slope above it and causes it to spread evenly over the level bench, and the little ridge on the outside of this bench holds the water back for a time until it has sufficiently soaked into the soil. Care must be taken not to allow the water to cut channels on its way down over the steep slopes of this system.

In the right of the picture is an arrangement which is applicable to steep hillsides, holding the water long enough to allow percolation into the soil. It is a modification of the check or basin system, and consists of long curved checks built on level lines around the curved surfaces of the field. These checks take the form of a deep wide ditch, in the bottom of which the trees are planted, and cross levees at intervals in these ditches form the ends of the checks. The water is taken down from one level to a lower one when the land is sufficiently soaked. This system does not include cultivation except by hand, as the ditch bottom is too narrow to admit of it. The method is of chief account for foresting a steep hillside in a region where irrigation is essential; but the cost of the operation indicates that it is an undertaking to satisfy the taste rather than to fill the pocket.

HILLSIDE IRRIGATION BY TERRACE OVERFLOW AND BY A CHECK SYSTEM.

Frost Prevention.

The Riverside orange growers are already at work arranging for a warm reception to Jack Frost if he should come their way this winter. They have districted their territory, elected district managers, also a general manager and a meteorologist. They have also an executive committee to see about getting frost-fighting materials at the cuttest rates. They have also adopted a plan of campaign which will be of interest to frost victims everywhere. The following are the points:

We recommend the use of coal as fuel in wire baskets, combined with some contrivance, where possible, by which steam or vapor may be produced by the use of wet straw or other material, and that at least one basket to each four trees be used, or more where it is possible for the grower to do so.

We recommend that the soil be kept wet by frequent irrigations, so arranged that this may not interfere with lighting fires at the proper time.

The manager and the meteorologist are to act together in deciding when the instruments foretell danger and notify every orange grower when it is time to turn out and begin fighting.

A more detailed account of one affair for smoke and steam making is described by R. W. Meacham, which is said to have elevated the 5 A. M. temperature 10° at a trial recently made. The outfit is simple and cheap. A piece of ordinary chicken wire screen 4 feet square is fastened at the corners to four stakes set or driven in the ground, the screen being about 2 feet from the ground. Six inches in thickness of wet leaves or straw is placed on the screen, with a can of crude petroleum underneath the leaves or straw. When the oil is lighted a dense white smoke arises which soon fills the orchard, and so heavy that it does not rise much higher than the tree tops. There is an entire absence of the sooty smoke which, in experiments in years gone by, proved unfit for use, because of the injury to the fruit, but in its stead is a white smoke. It is claimed that twenty of these baskets are ample for a ten-acre orchard. It will be the part of fruit growers everywhere to emulate the example of the Riverside people and attack the frost problem resolutely.

SOME changes have recently occurred in the personnel of the University Experiment Stations. Mr. Julius Forrer who has served at Tulare since the opening of the station goes for a season to the Amador station and his place is supplied by Mr. Emery, a Cornell graduate, who has been taking and advanced course in agriculture at Berkeley. Mr. T. B. Sedgwick, a University graduate, has taken the Paso Robles station, replacing Mr. A. V. Stubenrauch, who returns to Berkeley as clerk to Director Hilgard. Mr. W. Winterhalter, who has been for the last year at the Berkeley station has leased the Harvey dairy ranch near Galt and strikes out for himself.

AN interesting statement of the use of electricity at farm work is given in the *Electrical Engineer* to the fact that an alternating current motor which was placed on a farm six miles away from the power station at Kennett Square, Pa., has very successfully threshed this season's wheat, a crop of 450 bushels, and also placed ten acres of corn in the farmer's silo. The motor threshed out the wheat in fifteen hours—a piece of work that it would have taken the ordinary engine used for this purpose three days—and it filled the silo in ten hours, for which work the engine would have taken the same time as for the wheat, namely, three days. The farmers seem very well pleased with the operation of the motor and displayed great interest in watching it in operation.

THE Stanislaus County Supervisors have adopted an ordinance placing a bounty of 2 cents on each squirrel tail and each rabbit scalp of animals killed in the county. The pests during the past year have multiplied at an alarming rate, this summer destroying hundreds of acres of grain in the county. The farmers sought aid from the Supervisors, hence the action.

THE Farmers' Institute at Napa on Friday and Saturday of this week promises to be a notable one. A full programme of interesting features has been prepared. All RURAL readers in the region should participate in the meetings.

PACIFIC RURAL PRESS.

Office, No. 220 Market St.; Elevator, No. 12 Front St., San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

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Any subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

Our latest forms go to press Wednesday evening.

Registered at S. F. Postoffice as second-class mail matter.

ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, November 21, 1896.

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The Week.

Weather and Crops.

Another light rain has fallen over the northern half of the State which has been of advantage to field work in which farmers are now busily engaged. The season progresses favorably in all respects.

The following data for the week ending 5 A. M. Wednesday, Nov. 18, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	2.14	8.90	4.38	6 51	68	36
Red Bluff	.52	2.59	2.97	4 10	68	34
Sacramento*	.20	1.42	2 19	3.13	71	39
San Francisco	.25	2.76	2 18	3 07	66	47
Fresno	T	1 55	.29	1.22	72	38
San Luis Obispo	....	1.68	2.16	....	78	38
Los Angeles	....	.38	.63	1.93	84	46
San Diego	....	1.00	.99	1.20	76	50
Yuma	....	.58	.32	1 11	86	50

* Up to 5 P. M. Nov. 17: furnished by J. A. Barwick.

Santa Clara Almost Clear of Fruit.

The San Jose *Mercury* thus quotes Col. Philo Hersey:

The amount of dried prunes and other fruit remaining unsold in the Santa Clara valley is undoubtedly smaller at the present time than for many years at this season. Some prunes are being brought in to the Exchange daily, and perhaps from 150 to 200 tons will come in within the next few weeks. Some few growers held back for a time before deciding how to dispose of their fruit. It is now evident that the present firm prices will be prevailing ones. As far as the movement to the market is concerned there is at present not the heavy demand that was noticeable a few weeks ago, but shipments continue to go forward. The Exchange at present has not more than twenty carloads of all kinds of fruit. At this time last year there was four times that amount on hand. To give an idea of how well the crop has been cleaned out, it may be said that at the highest the crop this year has been estimated at 30,000,000 pounds. The railway shipments show that already 24,000,000 pounds have been shipped from San Jose this season.

The price for the four sizes remains firm at 3½ cents. Prunes of the forty size are very scarce, and forties to fifties being 6 cents, which is an advance on the San Francisco quotations. The fact that it brings almost double the price brings forcibly to mind the advantage of raising large fruit.

At the County Exchange warehouse twenty men and girls are employed in packing prunes of attractive size and appearance in neat boxes for the German trade. The orders from that country are very encouraging, and undoubtedly in a few years will reach a volume that will cut a large figure in the business. During the past week there were orders for 3300 boxes. The fruit for the foreign trade is shipped in 25 and 50-pound boxes.

Business is Hopeful in the Grain Section.

A Stockton letter of the 13th inst. says:

No section in the State is feeling the effects of the upward movement of wheat more than the San Joaquin valley. Contrary to the general impression, the warehouses here contain vast quantities of wheat, the receipt for which is still in the hands of the growers. Had the movement come two months later it might have been different, but luck has favored the farmer, for the raise came at a very acceptable time. There is an excitement along the water front that has not been seen here for years, and profits are being well distributed. The tendency of holders is to accept the offers and leave the chances with the man at the other end of the wire.

Captain J. W. Smith, representing George McNear, yesterday contracted for 50,000 bags of wheat, lots stored in three local warehouses. The price paid was $1.47½. This transfer alone involved over $100,000. Several smaller sales were also made, among them one by H. E. Wright & Son, who bought 9000 bags of the choice milling article.

A number of farmers sold wheat yesterday which they had been holding in store. O. C. Dustin disposed of his holdings at $1.52½, saying that he thought wheat would go higher, but that he was willing for the other fellow to make a little. Hiram Jones sold the holdings of the Jones estate for Mrs. O. W. Jones, about 150 tons, for $1.52½, and said that the crop of wheat on the ranch would be larger than ever next year for the fields were being already turned for that purpose.

At the close of business hours to-day quotations were $1.55 and several big deals are in negotiation which will be closed to-morrow. Just before the last move several thousand sacks of the lowland article were sold by C. J. Smith at $1.53¾. This is considered a remarkable price for the lowland article. The steadiness of the market is not doubted and there is great confidence in local circles of a rise of several points within ten days.

Programme of the Horticultural Convention.

Secretary Lelong of the State Board of Agriculture has announced the following programme for the Twentieth Convention of the California Fruit Growers, which is to meet in the State Capitol at Sacramento, Dec. 1st:

TUESDAY, DECEMBER 1st.

1. Calling to order at 9:30 A. M.
2. Invocation.
3. Election of two Vice-Presidents.
4. Addresses of welcome.
5. President's annual address.
6. Appointment of committees by President:
   (*a*) On Resolutions; to consist of five members, to whom all resolutions shall be referred, unless otherwise ordered.
   (*b*) On Legislation: to consist of five members.
   (*c*) On Marketing, Transportation and Freight Rates: to consist of eleven members.
7. Routine business.
8. Business laid over from last session.

AFTERNOON.

1. Should tree planting be encouraged or discouraged? If so, what kinds, varieties, etc.?
2. How to improve our orchards. Should not unprofitable trees be worked over or cut out?
3. Protecting orchards from frost.
4. Congressional legislation affecting the fruit industry, etc.

WEDNESDAY, DECEMBER 2nd.

FORENOON AND AFTERNOON.

1. Review of the year's fruit shipments.
2. Distribution of fruit; opening new markets; importance of having traveling agents; feasibility of establishing stores in all large cities.
3. The feasibility of establishing a free public market in San Francisco.
4. Transportation and freight rates on green and dried fruit.

THURSDAY, DECEMBER 3rd.

FORENOON.

1. Insect pests, tree diseases, and remedies therefor.
2. Parasitical and predaceous insects.
3. Questions (which must be in writing and put in the question-box) on any subject pertaining to the fruit industry, to be answered by those present.

AFTERNOON.

1. Cultivating, fertilizers, irrigation, and irrigating to develop the size and quality of deciduous fruits
2. Pruning, thinning, gathering, and grading fruit.
3. Budding and grafting—new processes, etc.

FRIDAY, DECEMBER 4th.

FORENOON.

1. Processes and packages for transporting fruit.
2. Selection, grading, and care of fruit.
3. New fruits and new varieties.
4. Questions, continuation.

AFTERNOON.

1. Reports of committees.
2. New subjects and special business.
3. Arrangements for next Convention.

SPECIAL.

Forest and Flower Culture, to be assigned.
Also, special subjects.

FRANK H. BUCK,
Chairman Committee on Programme.
R. D. STEPHENS,
Chairman Committee of Arrangements.

Pith of the Week's News.

JAMES R. SOVEREIGN has been re-elected general master of the Knights of Labor.

THE British army is to be increased in numbers and in discipline at a cost of $25,000,000.

GOVERNOR BUDD and several other State officials are going to Yosemite valley to spend Thanksgiving.

MISS WILLARD and all the other general officers of the Women's Christian Temperance Union have been re-elected.

IN a competitive race of horseless carriages between London and Brighton last Saturday the American machine was the winner.

THE heaviest individual contribution made to the Republican national campaign fund was by W. K. Vanderbilt. His brother Cornelius gave $50,000.

INTERVIEWED at Kansas City on the 13th inst. while on her way East, Miss Susan B. Anthony said that the defeat of the Woman Suffrage amendment in California was due to the rum sellers."

JOE SOUZA, aged twelve, who killed his stepfather two weeks ago in Tehama county, while the latter was beating the boy's mother, has been held for trial. Of course, the trial will be purely a farce.

THE old scheme for creating an American Monte Carlo has been revived, this time in connection with the town of Ensenada, in Lower California. It is not likely that the Mexican authorities will permit of it.

ON Sunday last the Salvation Army dedicated its new Convict Home near Martinez, in Contra Costa county. It is proposed to maintain it as a place where ex-convicts may find refuge until they can secure employment.

THE Spanish are having much better luck with the rebellion in the Phillipine Islands than with the Cubans. In an engagement last week, in which the troops suffered a very trifling loss, over four hundred Islanders were slaughtered.

MR. BRYAN'S lecture tour will begin at Atlanta in December and is planned to cover pretty much the whole country, including the Pacific States. It is understood that he will receive a lump sum greater than a year's salary as President.

IN the recent election Chicago cast 339,991 votes, while New York cast only 297,535. The vast increase in the population of Chicago is due to the extension of the corporation limits over outlying towns. New York remains far and away the larger center of population.

THE Democrats and Republicans of Vacaville united in a celebration in honor of the President-elect. This is as it should be; the partisan spirit ought to be dropped when the election is over and all should stand together as citizens in support of the regularly constituted authorities.

THE thirtieth anniversary of the organization of the International Young Mens' Christian Association was celebrated at New York on the 12th inst. Within the thirty years of the international organization of the Y. M. C. A. it has grown from ninety societies to 1,488. The total membership in the United States is 263,298.

A TWO-WEEKS DOWNPOUR in western Oregon and Washington has flooded all the river valley regions. All trains arriving at Portland this past week have been delayed, and Seattle has been wholly cut off from the outside world for three days. The loss of property has been considerable in the narrow river valleys lying on the eastern side of Puget Sound.

A KENTUCKY friend of Secretary Carlisle is authority for the statement that Messrs. Cleveland and Carlisle propose to enter the practice of law in New York city as soon as their term of office expires. It is understood that permanent places in connection with the Federal Judiciary will be provided for Secretary Herbert and Postmaster General Wilson.

THE latest discovery in connection with the applications of electricity was made last week in San Francisco quite by accident. It seems that a blind boy, named Lucien Bacigalupi, while waiting in the "X Ray Parlor" of a little exhibit shop on Market street, suddenly found that he could see. The fact is vouched for by a well known physician and is to be made the basis of scientific investigation.

AT a meeting of the State Anti-Debris Association at Sacramento on Tuesday it was formally declared that the system of dams permitted by the California Debris Commission was condemned as dangerous, and a report was read by one of the members, referring to a number of such dams and declaring that they failed to answer the purpose for which they were built, and that the debris which had accumulated behind them would ultimately be carried down into the valley.

LI HUNG CHANG, the Chinese Premier, whose recent tour around the world has been an event of unsurpassed dignity and splendor, is finding out since his return home that a prophet may be very great throughout the world, but still without honor in his own country. It seems that the Chinese Emperor is jealous of the great diplomatic part which his Prime Minister has assumed and has therefore undertaken to humiliate him. He has been required, much against his will, to perform certain obsolete acts of personal homage and has been deprived of his salary for a year.

MRS. SUSIE MARTIN, who killed her husband in the San Francisco City Hall some months ago, was acquitted by a jury last week upon the ground of temporary insanity. This judgment has roused the wrath of Judge Wallace, in whose court it was rendered, and he has given the public a piece of his mind on the matter. Such trials, he says, are farcical; they cost a great deal of money and simply expose the sentimentality of jurymen. The woman had undoubtedly been badly used and she killed her husband from motives of personal injury and vengeance and was no more insane then than she is now; and she is none the less guilty of murder because she is a woman.

DURING the week there has been a good deal of savage talk on the part of the Spanish newspapers and officials about war with the United States, growing out of alleged carelessness of the American Government in allowing the insurgent cause in Cuba to recruit its financial and other forces in the United States. The fact is that Spain is no more capable of making war against the United States seriously than is the little Government of the Hawaiian Islands. This fact is thoroughly understood by the controlling powers in Spain. The Spanish people, however, are immensely conceited and it is they who are doing the talking. It would take the United States about thirty days to take possession of Cuba and to wipe out all there is left of Spanish power.

THE distress in India is pitiful. A Bombay dispatch of the 14th inst. says: "The agricultural prospects everywhere in India are of the gloomiest description. The prices of grain are rising and there has been another riot at Kurad, where a number of stores were looted. Governor Sandhurst will visit the suffering districts when the relief programme is in full operation at the end of the month." A London dispatch of the 14th inst. says: "The Viceroy of India, the Earl of Elgin, cables that there has been no rain in the affected tracts during the past week; but, he says, a detailed examination shows that the prospects in the Punjab and northwest provinces are more favorable than at first imagined. Distress, however, is imminent in several districts of Delhi. According to the last reports, over 120,000 men are employed on relief work."

UNFORTUNATELY for the farming community of the United States, the great rise in the value of wheat has not benefited the farmers so much as might have been expected. Before the rise came vast numbers had sold their crops under compulsion of hard times, but others had done so because they did not know that all the facts of the situation pointed to better values. There are many thousands of men in California who are now groaning because they failed to make the profit which was reasonably due them, who might be much better off if they had carefully read the facts as presented in the RURAL PRESS from time to time during the past six months illustrating the conditions of the wheat supply the world over. It is well worth the time of the farmers of California to keep track of the RURAL'S market reports. It is the only report published in California written from the standpoint and in the interest of the producer, and taken by itself it is worth far more than the whole annual subscription price asked for the paper. By the way, if your neighbor has suffered from not having been posted respecting recent market changes, just suggest to him that he subscribe for the RURAL PRESS; and after having made this suggestion to him drop a line to us giving his address and we will send him sample copies. A single number will convince him that if he wants to keep track of the markets his best plan is to carefully study the RURAL.

AMONG the improvements planned by the new company at Chino is the use of the waste water from the factory for irrigation. The new company has made an arrangement with the Chino Valley Beet Sugar Company whereby the latter will deliver this water in pipes running about due west, the same distance they go south. The Beet Sugar Estate and Land Company will then continue the pipe line across Chino creek and the county road to a point from which it will be distributed over about 3000 acres of the land at the foot of the hills, extending southward. It is proposed to have this land planted largely to alfalfa.

From an Independent Standpoint.

Mr. Bryan has declined very tempting offers of professional employment, and is planning to devote his energies from now forward to agitation of the issues which he championed during the late campaign. He is writing a book in which his economic and political ideas will be fully set forth; and when this task is done he will take the lecture platform with a view to educating the people in preparation for the next national campaign, in which—it goes without saying—he expects to re-enact the part he has played during the past few months. This is a new method in American politics and its success is very far from being assured. Where parliamentary systems are subject to change at any time—as, for example, in England—it is practicable to keep the ball of party or even personal interest at all times rolling; but in a country where the official tenure is on a fixed time basis, the conditions are much less favorable to agitation. The American public is used to distinct periods of intense political excitement, followed by equally distinct periods of repose; and when the people have made up their minds to "settle down to business and give politics a rest" it is not an easy or a gracious task to rouse them into another mood. Again, in our politics as in everything else we are a very practical people; and comparatively few will deem it worth while to give serious attention to subjects which will not come up for determination until four years hence. The present spirit, even of those whose wishes did not carry in the late election, is to give the winning policies a free field and a fair chance. Mr. Bryan will, no doubt, find many readers for his book and curious crowds will come to hear him speak; but before half of the period between now and the year 1900 is spent there is likely to come over the people a weariness of agitation and a profound wish to be left alone to mind their own business, without prompting by Mr. Bryan or anybody else.

Whatever force the Bryan policies may have in the next Presidential campaign rests not so much upon the personal efforts of Mr. Bryan as upon the business conditions which shall obtain during the McKinley administration. If, during the coming four years, there shall be a general revival of prosperity—if the business of manufacture and the business of agriculture shall prosper—then the popular discontent, which was the real force behind the Chicago platform, will have subsided, and either Mr. McKinley or some other man representing his policies will be easily elected for the ensuing Presidential term. After the experience of the past few years the people will know a good thing when it has proved itself, and there will be no wish for a change. But if the price of products declines; if trade is slow, employment slack and wages low; if the distresses of the manufacturing and agricultural classes shall continue or increase—then there will be another and more general demand for change. The impulse toward experiment and a new deal will be immensely quickened and may acquire a force which will beat down all efforts to stay it. Perhaps the factor of greatest political importance during the coming four years will be the price of wheat. A very large measure of support of the free-silver project has grown out of the opinion that there is an almost exact relationship between the price of silver and the price of wheat. Recent facts have seemed to disprove this notion, for we have witnessed a very marked advance in wheat coincident with a sharp decline in the price of silver. It is not impossible that this disparity is a mere temporary accident and that the alleged principle of parity between wheat and silver will in the long run assert itself. The truth of this matter, be it one way or the other, is a concern of the largest importance, for the final settlement of the silver question is dependent upon it.

In the consent just announced of the British Government to submit the Venezueulan boundary dispute to arbitration the United States has won a signal diplomatic victory. Nearly two years ago, it will be remembered, England made preparations to seize by military force a strip of country long in dispute between her province of British Guiana and the Republic of Venezuela. The last named country protested loudly and, being unable to gain even a respectful hearing of her claims, called upon the United States to speak in her behalf. Without accepting any responsibility in the matter, our Government went so far as to say to the British Government that there might be two sides to the question and to suggest that the right to the territory in dispute be submitted to arbitration. To this the British Minister replied with diplomatic evasions, whereupon our State Department retorted in a curt letter that "the traditional and established policy of the United States is firmly opposed to the forcible increase by any European power of its territorial possessions on this continent," and calling upon the British Government for "a definite answer to the question, whether it would submit the territorial controversy between itself and Venezuela in its entirety to impartial arbitration." This was in August of last year and it was not until four months later that Lord Salisbury made reply. It was a blunt and positive refusal to arbitrate, to which was added a declaration that the British Government declined to recognize the right of the United States to mediate in a matter in which it was in no way concerned.

It was at this stage of the negotiation that the air got blue. The country became intensely aroused in its support of the "Monroe Doctrine;" and Mr. Cleveland, who is sometimes wrong but never afraid, proceeded to give Lord Salisbury a straight talk "with the bark on." In plain terms, he said that any movement against Venezuela would be accepted as an assault upon the United States, and that the British Government must either submit the boundary dispute to arbitration or reckon with this country. Coincident with this declaration the President sent a special message to Congress, the spirit of which is summed up in the following excerpt:

> It will, in my opinion, be the duty of the United States to resist by every measure in its power, as a willful aggression upon its rights and interests, the appropriation by Great Britain of any lands or the exercise of governmental jurisdiction over any territory which after investigation we have determined of right to belong to Venezuela.

This left England three alternatives: she must accept our proposition. abandon her claims against Venezuela, or fight. All this was in December, 1895, and Lord Salisbury's answer is just announced. He will accept arbitration. The British Government will name one of five commissioners, Venezuela one, the Supreme Court of Great Britain one, the United States Supreme Court one, and King Oscar of Sweden will name the fifth. The matter in its entirety will be submitted to this body, and its findings are to be accepted without appeal.

British journals admit the triumph of the United States in this matter and seem disposed rather to magnify than to belittle it. Their assumption is that it practically establishes the hegemony of the United States over the Spanish Republics of Central and South America and renders our country measurably responsible for their quarrels, at least insofar as they may affect European nations. This is an extreme, not to say strained, view of the matter, and one which will not be readily accepted either by our Government or by the people; but it cannot at the same time be wholly rejected. The case of Cuba may illustrate a situation in which there might arise serious embarrassment. Suppose the President should respond. to the manifest public sentiment by recognizing Cuba as an independent nationality! Would it not, then, under the principle enforced in behalf of Venezuela, become the "duty of the United States to resist, by every measure in its power, as a willful aggression upon its rights and interests," the appropriation by Spain "of any lands or the exercise of governmental jurisdiction over any territory we have determined of right belongs" to the Cubans? Would it be quite reasonable for us to decline to exercise, in behalf of Cuba, an authority which we have enforced in the case of Venezuela? This complication has no doubt been in the President's mind, and it has probably been the main reason why Cuba has not before now been granted the boon of American recognition.

In years gone by the duties of the Government relative to the agricultural interests of the country were given into the custody of the Interior Department, and were administered by a special "Commissioner." The work of the Commissioner was recognized as being of a technical kind, and in this view the appointment was made upon considerations of practical qualification. Politics cut almost no figure in the matter, and one highly efficient Commissioner was undisturbed in his work through several successive changes in the general Government. At this period the Bureau, as it was called, was of immense benefit to the farmers of the country. Their needs were carefully studied by an able and devoted man, whose heart was in his work; and while the means provided by Congress were pitifully small they were carefully husbanded and every dollar was put to profitable account. So good was the work done under these modest conditions that many persons devoted to the agricultural interest—and the RURAL was among them—conceived the notion that if the humble Bureau could be enlarged into a Department, and if the Commissioner could be promoted to a Cabinet Secretary, the benefits would be many times multiplied. This assumption was made the basis of a great agitation under the lead of the Patrons of Husbandry, and in which the farmers of the country took an active interest. In the end all that was asked for was secured; and now for something more than ten years the Department of Agriculture has been one of the general divisions of the national administration. But the truth must be confessed that the Department is really less efficient than the old Bureau. Its head is selected upon political considerations; the funds granted by Congress are dissipated in red-tapeism, and the whole service has become a spoke in the great wheel of politics—of almost no special advantage to farmers. A few months ago California was visited by the incumbent Secretary of Agriculture, and what was his errand? Was it to look into the conditions and needs of our sorely distressed farmers, and to devise ways to help them? Did the honorable Secretary seek out those who could speak for the farming interest? Not at all! He put up at the Palace Hotel and spent a week in consultation with a crowd of professional politicians with a view to organizing a delegation to the Chicago convention favorable to the projects of the administration. As related to agricultural interests, his visit was of no more value than would have been a visit from the Secretary of War. Its whole significance was to show the farmers of California that the so-called Department of Agriculture is nothing more or less than a part of the general political and administrative machine; and it could scarcely be otherwise when the Secretaryship has become one of the choice political plums at the disposal of the President.

This statement of unpleasing facts is called forth by an attempt now being made to start an agitation for a Department of Mines and Mining. It is possible that such a movement may be pushed to success; but, in view of results in the matter of the Department of Agriculture, we suspect that the mining interest will gain nothing better than a harvest of disappointment.

The projected new charter for San Francisco failed of ratification in the recent election but under circumstances which leave the friends of the reform movement much ground for hopefulness. The heavy vote for Phelan for Mayor indicates that those who favor good municipal government are largely in the majority and there appears to be no doubt that the charter would win if, with a few slight amendments in no way modifying its essential character, it could again be submitted to popular vote. It is now proposed to make an attempt to do this at once and it is hoped that before six months have passed the thing will be accomplished. The direct interest in this matter belongs naturally to the city but it is scarcely less important to the State at large. Under a clean system in San Francisco, the State Legislature and the State conventions will be relieved of the "San Francisco gang" which has long been so evil a factor in legislation and in our party politics. With this gang out of the way there may again be some chance for honest men to work effectively in State affairs.

The latest report in connection with the Cuban war is that Captain-General Weyler has been notified by the Madrid authorities that he must

either crush the rebellion between now and December 1st or retire. Weyler has 200,000 Spanish troops in Cuba and is personally at the head of a force of 60,000 men seeking to crush the insurgent general, Maceo, who has only 7,000 men. Maceo's position is an exceptionally strong one, backed by mountains impassible to the Spaniards, with interior strongholds so protected that a very small body of men can withstand a host. Under date of the 7th inst., Maceo writes to a friend in New York that no concern need be felt for him, since his position is absolutely impregnable. He has as much ammunition as he wants and nothing short of positive annihilation, he says, can put a stop to his activities. It is reported from Washington that Mr. Cleveland will wait until December 1st before writing such part of his forthcoming message as will deal with the Cuban question. If the Spanish forces succeed in crushing the rebellion then of course no recommendations will be made; but if the present conditions shall be unaltered—that is, if the insurgents shall maintain their military standing—it is declared that Mr. Cleveland will urge the recognition of Cuba as an independent nation. This has already been done by the Republic of Bolivia and the other South American Republics are only waiting the action of the United States. Many circumstances indicate that the crisis of the long warfare is approaching and the belief is almost universal that the independence of Cuba will be secured.

Decision in Favor of the Wright Law.

The long expected decision of the United States Supreme Court on the constitutionality of the provisions of the California method of organizing irrigation district enterprises as embodied in the statute known as the "Wright Law," was handed down on Monday of this week. It affirms the constitutionality of the law on all the points contested and has been received with much satisfaction by the leaders of irrigation enterprises in this State. Those who opposed the law because they do not wish their lands bonded and taxed for such improvements, are correspondingly depressed and the lawyers on their side say that the contest will still go on in other lines.

The Disagreement in the California Courts.—Readers will remember that the litigation of this question has been in progress for several years, and the highest courts in this State disagreed. The California Supreme Court upheld the constitutionality of the law; the U. S. Circuit Court at Los Angeles turned it down. The recourse was then to the Supreme Court of the United States. The decision comes in what is known as the Fallbrook case and was pronounced by Judge Peckham and was concurred in by all the Justices except Field and Fuller.

A Wide Question.—In the opinion disposing of the case, Justice Peckham refers to the vast extent of the "arid region" and the great importance to those residing in it of the scheme to improve its land by irrigation. Taking the California law as a model, he said, seven or eight other States in the arid belt had passed similar laws to assess lands for the cost of constructing irrigating works, and condemning other lands for right of way of these works, proceedings under which were awaiting the result of the pending litigation.

Irrigation is a Public Use.—One of the points made by counsel was that the irrigation of arid lands was not a public purpose, and this was discussed in the opinion at length in connection with the power of the Legislature to pass a law providing for the accomplishment of that purpose. The Supreme Court found no difficulty, Justice Peckham said, in coming to the same conclusion reached by the California State Court: that the irrigation of arid lands is a public purpose; that the water so used is put to a public use, and that an act providing for irrigation is a valid exercise of the legislative power.

All Lands May Be Included.—A second objection urged by the property owners was that the operations of the act need not be and are not limited to arid unproductive lands, but include within its possibilities all lands, no matter how fertile or productive, so long as they are susceptible "in their natural state" to one mode of irrigation from a common source, the special point being that it was unlawful to include the city of Modesto in an irrigation district. But the Supreme Court of California said it was undoubtedly intended by the Legislature that cities and towns in proper cases should be included in such districts, and that the fact thus construed did not violate the State Constitution, and that view of the law the Supreme Court of the United States adopted.

Sufficient Hearing Accorded.—As to the construction of the act upon the third point raised, the Supreme Court held that it provided for a hearing of the land owner, both as to the question whether his land would be benefited by the proposed irrigation, and when that had been decided in favor of the benefit thereupon the question of valuation and assessment of and upon his land included in the district. As to other matters, the district could be created without notice to anyone. "Our conclusion is that the act, as construed with reference to the objections considered under this third head, is unassailable."

It is not Without Due Process.—The fourth and final objection was as to the basis of assessment upon the lands benefited, that it amounted to a taking of the property of the citizen without due process of law. Regarding this the opinion says: "The method of assessment here provided for may be the best which could have been made in order to accomplish the most equal and exact justice which the nature of the case permits. But none the less, we are unable to say that it runs counter to any provision of the Federal Constitution, and we must for that reason hold the objection here considered to be untenable."

The judgment of the Circuit Court was therefore overruled and the case remanded for further proceedings not inconsistent with the opinion of the Supreme Court of the United States.

The Modesto Projectors May Proceed.—The decision of the court in the case of the Modesto district, which came from the Supreme Court of California, was announced by Justice Brewer. The constitutionality of law, he said, had been settled by the decision in the Fallbrook case, and the Modesto case was disposed of briefly on the ground that it presented no question for the Supreme Court of the United States to decide. The proceedings from which they appealed simply gave the directors of the irrigation system authority to issue bonds. "As no bonds were issued," said Justice Brewer, "and the proceeding does not compel the issue of any, and they may not be issued at all, no such suit is presented as calls for consideration and decision by this court. For this reason each appeal will be dismissed. Justices Harland, Gray and Brown, however," he continued, "are of the opinion that as the judgment of the State court was against the right and privilege specially set up and claimed by the plaintiff in error under the Constitution of the United States, such judgment is not modified or revised, and will include him, if not all the holders of taxable property in the Modesto Irrigation District, in respect of the Federal right and privilege so alleged; consequently, it is the duty of this court to determine upon its merits the Federal question so raised by the pleadings and determined by the judgment of the State court. They are also of the opinion that the principles announced in the Fallbrook case sustain the conclusions of the court upon this Federal question, and require the affirmance of its judgment."

Gleanings.

FRESNO'S second annual citrus fair will open December 14.

PORTERVILLE is already sending out navel oranges to the Eastern markets.

IONE is to have a Farmers' Institute under the direction of the State University.

ARRANGEMENTS are being made for a Farmers' Institute at Porterville, under the auspices of the State University.

THE Ukiah *Republican-Press* reports that the greater part of the Mendocino county fall wool clip has been sold at an average price of 9¼ cents.

PLACER *Representative:* John Ream has established a factory for making tomato catsup at his place, near Excelsior schoolhouse, and is putting up thousands of bottles.

Pajaronian: "A carload of Eastern apples was dumped in the Columbia river at Portland recently, and a car destined for Seattle was returned to point of shipment. They reject diseased apples in that section."

ANSPACHER BROS.' hay warehouse at Livermore burned to the ground last week with 2234 tons of hay, of which 681 tons was owned by farmers. This is the third big hay fire in Livermore valley during the past few months. It is suspected that the fire was incendiary.

SAN JOSE *Tree and Vine*: "Mr. LeFranc last year at this season turned a large band of sheep into his vineyard and the leaves were quickly consumed. The result has been that this year there has been less trouble with the vine hopper, so prevalent in this locality. Where this can be done, we advise it."

THE well known nursery and seed firm of Trumbull & Beebe, 419 and 421 Sansome street, San Francisco, will be in the market early this season with a fine line of both staples and novelties. They have just issued an attractive "preliminary catalogue," quoting prices on a large list of choice nursery stock.

WOODS BROTHERS, the Roberts island farmers, have consummated the sale of their entire crop, getting for the wheat $1.50 per 100 pounds and 80 cents for their barley. The sale was the biggest made by local growers this year, the amount received being close to $121,000. The purchasers were Balfour, Guthrie & Co.

ON Nov. 7th the Oregon Angora Goat Breeders' Association was formed and the following officers elected: J. H. Hawley, Monmouth, Or., president; John B. Stump, Monmouth, Or., vice-president; L. B. Gurnett, Portland, Or., secretary-treasurer. A resolution was adopted favoring co-operating with the California Association in any matters looking towards the advancement and improvement of the mohair industry.

WATSONVILLE *Pajaronian*: Heretofore orchards have been purchased by packers when the trees were in blossom; but that system is not speedy enough for some of our shippers, and so they are buying next year's crop before all of this year's crop is picked. Several sales of the 1897 crop is reported, and at good figures, and we are informed that bids have been made for the 1898 crop of some orchards. Apples have a value here. All purchases are at least half cash down at time of sale. Just think of it—paying several hundreds or thousands of dollars now for an orchard, and then wait twelve months for any return, and take all the chances on crop failure and glutted markets. A man is a sport who will buy orchards on such a margin.

CLOVERDALE, November 13.—The wool growers have been gathering in from the Mendocino and Sonoma pastures during yesterday and to-day, and now they have sold their clips and returned home happier than for the past three years. The quality was fair, not equaling in texture the clip of last year, yet the prices realized ranged from 8½ to 9¼ cents, which is an advance of 2 cents over offers before election. Messrs. Brush & Pinschower were the buyers, and over 450 bales were sold.

ON the 13th inst., Mr. John Sparks shipped from the Alamo Hereford Cattle Farm near Reno, Nevada, twenty-three head of Hereford cattle to James Whitaker at Galt, Sacramento county, Cal. This herd was made up from some of the prize winners at the State Fair this year and consists of twenty-two heifers and one bull. They are the get of the famous Earl of Shadeland and his son Lord Fulton, who won sweepstakes at Sacramento this year; the Alamo herd taking every premium but one in Hereford class, winning over $600 in sharp competition. Although Mr. Whitaker paid fancy prices for the herd, he has laid the foundation for another fine herd of Herefords.

A LODI dispatch states that the almond growers of California are being notified by some of the largest growers in the State, who have orchards in the neighborhood, to meet at Sacramento on Dec. 1st, to prepare a petition to be presented to Congress by one of our Congressmen, asking that the former McKinley custom tariff of 5 cents per pound he put back on almonds, the Wilson bill now permitting their importation at 3 cents per pound. The growers of north San Joaquin say the industry is unprofitable as the tariff now stands. The movers in the cause are the Hatch-Armstrong Company, Senator B. F. Langford and the Buck-Allison Company. This is the first time concentrated action has been taken for the benefit of the nut growers.

Variation in San Francisco Wheat Prices During the Past Year.

The following table, compiled by the Produce Exchange, shows the price of No. 1 shipping wheat in the San Francisco market every day during the past year:

November 18 to 22 inclusive	96¾@ 98¾
November 23 to 27 inclusive	95 @ 97
November 29 to December 3 inclusive	97¼@ 98½
December 4 to 6 inclusive	97½@1 02
December 7	1 00 @1 01½
December 9 to 10	1 00 @1 02
December 11 to 12	1 00 @1 01
December 13 to 14	1 00 @1 02
December 16 to 26 inclusive	98¾@1 01½
December 27	98¾@1 01
December 28 to 30 inclusive	1 00 @1 02¼
December 31 to January 7 inclusive	1 00 @1 03½
January 8	1 00 @1 05
January 9	1 03¾@1 06
January 10 to 16 inclusive	1 05 @1 07¼
January 17 to 21 inclusive	1 06¼@1 08
January 22 to 23	1 08¾@1 10
January 24	1 08¾@1 11¾
January 25 to February 1 inclusive	1 10 @1 15
February 3	1 15 @1 17½
February 4 to February 8 inclusive	1 13¾@1 15½
February 10 to 12 inclusive	1 12½@1 13¾
February 13 to 17 inclusive	1 12½@1 15¾
February 18 to 24 inclusive	1 12½@1 14
February 25 and 26	1 12 @1 15¾
February 27 to March 6 inclusive	1 12½@1 13
March 7 to 11 inclusive	1 10 @1 11 1-2
March 12	1 10 @1 11½
March 13 to 18 inclusive	1 08¾@1 10
March 19	1 07½@1 08¼
March 20	1 07¼@1 08¾
March 21 to 28 inclusive	1 07½@1 10
March 30	—@1 07½
March 31 to April 4 inclusive	1 07½@1 10
April 6 to 9 inclusive	1 08¾@1 11¾
April 10 to 16 inclusive	1 07½@1 10
April 17 to 24 inclusive	1 07½@1 11¼
April 25 to May 12 inclusive	1 07 @1 10
May 13 to 16 inclusive	1 06¼@1 10
May 18	1 06½@1 08¾
May 19 to 27 inclusive	1 05 @1 07½
May 28 to June 2 inclusive	1 02½@1 05¾
June 3	1 00 @1 03
June 4	1 00 @1 02
June 5	1 00 @1 03
June 6	1 00 @1 05¾
June 8 and 10	1 00 @1 03¾
June 10 to 13 inclusive	97½@1 00 1-2
June 15 and 16	95 @ 98¾
June 17 to 26 inclusive	95 @ 97¾
June 27 to 29 inclusive	92 1-2@ 95¾
June 30	92 1-2@ 93 1-2
1896–97.	
July 1 to 3 inclusive	92½@ 93¾
July 6 to 16 inclusive	90½@ 95
July 17 to 23 inclusive	95 @ 96¼
July 24 to 29 inclusive	93¾@ 97½
July 31	95 @ 97½
August 1 to 5 inclusive	95 @ 96¼
August 6 to 20 inclusive	93¾@ 95
August 21	93¾@ 96¼
August 22	95½@ 97
August 24 to September 2 inclusive	95 @ 98
September 3 to 10 inclusive	95 @ 97½
September 11 and 12	96½@ 98¾
September 14 and 15	97½@1 00
September 16 and 17	98¾@1 00
September 18 to 22 inclusive	1 00 @1 02½
September 23	1 02½@1 03¾
September 24	1 05 @1 07½
September 25	1 06¼@1 08¾
September 26 to 29 inclusive	1 06¼@1 07¾
September 30	1 11¼@1 13½
October 1	1 15 @1 20½
October 2	1 15 @1 17¼
October 3	1 13¾@1 15½
October 6	1 16¼@1 17½
October 7	1 13¾@1 15
October 8	1 16¼@1 17½
October 9	1 15 @1 16¼
October 10	1 17½@1 20
October 12	1 18¾@1 22½
October 13	1 22½@1 23¾
October 14	1 23¾@1 27½
October 15	1 28¾@1 31
October 16	1 30 @1 32½
October 17	1 40 @1 42½
October 19 and 20	1 45 @1 50
October 21	1 38¾@1 40
October 22 and 23	1 35 @1 37½
October 24	1 30 @1 32
October 26	1 30 @1 31 1-2
October 27	1 27½@1 30
October 28 and 29	1 30 @1 32 1-2
October 30	1 32½@1 36¼
October 31	1 32½@1 38¼
November 2	1 33¾@1 37 1-2
November 4	1 40 @1 42 1-2
November 5 and 6	1 35 @1 37 1-2
November 7	1 40 @1 42 1-2
November 9 to 11 inclusive	1 42½@1 45
November 12	1 45 @1 45 1-2
November 13	1 51¼@1 53¾
November 14	1 52½@1 55

FRUIT PRESERVATION.

The Pickling of Olives.

To the Editor:—My olive orchard has perhaps 100 pounds of fine olives. Can you give me an idea how to take care of them as an experiment, as next year I may have a good crop and desire to prepare for it. J. P. Newman.

The suggestion is opportune, and no doubt many are in the position of our correspondent. It is a very good idea to begin experimenting with small lots, and thus to learn poiuts which can only be learned by experience. As an outline of the pickling processes we give, therefore, extracts from the writings of Mr. A. P. Hayne in the last report of the University Experiment Station.

State of Maturity.—The first thing is to determine the proper state of maturity for pickles. This is reached as soon as the oil has completely formed in the drupe. If the olive is picked before it has formed its oil it will be hard, indigestible, and largely devoid of the nourishment that makes the ripe pickled olive so highly esteemed. If, on the other hand, the olive is allowed to remain on the tree after the oil has formed, the flesh becomes soft and the keeping qualities are impaired. Nothing, then, is gained by waiting after the fruit has reached its full "oil richness," which is the chief quality a ripe pickle should possess. In hot climates the color of the olive at this state of maturity will be lighter than in colder regions; hence the color alone cannot be relied upon to furnish us with a sure guide to the determination of maturity.

When the drupe changes color and feels slightly soft to the touch, and when, upon pressing the juice and allowing it to stand, it is found that some minute globules of oil rise to the surface, it may be said that the olive is ready to be picked, either for oil or pickles. At this time the oil is not only of a better chemical composition and flavor than later, but the liability to bruise and decay is far less.

Handling the Olive.—In the case of olives destined to be made into oil, bruising is conducive to the growth of fungi that ruin the good qualities of the oil. In the case of pickles the bruised olive develops not only fungi but also innumerable bacteria. The oil olive is to be kept but a short time and can even be evaporated; but with the pickled olive it is different. It must be kept a very long time without losing its water of vegetation, and one of the first requisites is that it shall be kept firm. It is for this reason that all authorities on the subject of oil making or pickling are unanimous in condemning the custom of beating the olives from the trees with poles, or "combing" them off with rakes or other contrivances. In all cases the olives should be *picked by hand*, and with those destined to be pickled the greatest care should be taken not to bruise the drupe in the slightest degree.

So important is this that it is the custom with the best operators to pick the olives into buckets half filled with water. In pouring them from the buckets or bags the workmen are in the habit of using a barrel, into which they pour the crop as fast as the buckets are filled; this barrel is half full of water so as to "break the fall." Letting an olive fall from the top of an ordinary barrel and allowing it to strike the hard bottom with full force will bruise the soundest olive, and the chances of making a good pickle out of a soft olive are slight.

Color of the Olive.—Thus far most of the ripe pickled olives that have been sold on the market have been Missions that have been allowed to become jet black; hence the idea has gone abroad that all ripe pickled olives should be black. That this is an error has been sufficiently demonstrated lately. Some olives are naturally light in color, and even the same variety varies greatly in this respect, owing to climatic and soil differences. The only requisite of a ripe pickled olive is that it should contain its full natural oil percentage, for the market does not want a soft olive under any circumstances.

The manner of preserving the olive also has a great deal to do with the final color of the pickle. A fruit that has been preserved by the lye process has far less color than one that has been water-cured; and soda will take out far more of the coloring matter than the same quantity of potash. Hence it is that the best practitioners use only potash, partly on this account, partly because it softens the flesh of the olive less than the soda does. While the actual color makes but slight difference in the eating value of the pickle, it must be kept in mind that uniformity of color is for the purchaser a very important consideration. This can only be regulated by picking such olives as are of a uniform color.

This is practically a very hard matter. With one accustomed to the use of ripe pickled olives a slight variation in the color is not thought of, but to the beginner any variation from his preconceived ideas of what the color should be is a great defect. Hence it is that olives that are destined to be put up in bottles should be uniform in this respect. This necessitates two or three pickings, which is no inconsiderable expense. Nevertheless it pays, and pays well, to make a couple of pickings in order to secure this uniformity in general appearance. It is to be noted that there is more uniformity in color after pickling than before.

TO EXTRACT THE "BITTERNESS."

Pure-Water Process.—The oldest, and perhaps the best known, method of extracting the tartness from the olive is by simply soaking it in pure water till all the excess of such substances has been extracted. This process, though seemingly very simple, is a very dangerous one to the olive, and requires the greatest patience and care. The reason is that a continued supply of perfectly pure water is hard to command, and that the slightest carelessness in regard to the changing of the water at regular intervals will allow the bacteria to gain a footing in the vats, thus rendering danger from putrefaction very great. As in the case of extraction by lye, the vats should be furnished with false bottoms an inch or so above the regular bottom, so as to allow the impurities to be easily drawn off. The fruit should not be in layers of more than twenty or twenty-five inches in thickness. The water should be the purest well or spring water, and were it possible to have boiled water it would be better. The benefit from using distilled water is incalculable, and on places where there is a steam engine this is possible by condensing the steam that is ordinarily allowed to escape. A condensing apparatus is inexpensive. Under no circumstances should canal or ditch water be used, even for one day. There should be a floating cover that should be kept scrupulously clean; and over this there should be a close-fitting cover to keep out the light, air and, incidentally, all germs of fungi and bacteria.

It is customary in some countries to make an incision in the flesh of the olive with a sharp knife, thus allowing freer access of the water to the flesh. This practice, while greatly expediting matters, cannot be recommended, as it tends to make the life of the pickle shorter, and is too expensive for our conditions. The danger from bacteria and softening is far greater with slit olives than with those with whole skins.

Ordinarily, this extraction process lasts from thirty-five to sixty days. The water should be changed once each twelve hours, though some do not change oftener than once in twenty-four hours. Experience has shown that the latter is too long a time for the water to stand in contact with the olives. Once a week the whole vat should be well rinsed by filling and drawing off the water several times in immediate succession. The length of this fresh-water soaking varies greatly according to the tartness and toughness of the olive. After the first twenty days the fruit should be tasted every day; and when the proper amount of tartness has been extracted, the fruit should be put into a salt brine containing four ounces of good, pure salt to the gallon of water. In this they should remain about two days, and if the salt does not seem to penetrate the flesh a fresh brine of the same strength should be put on for two days more, then another brine which contains six ounces of salt per gallon should replace it. This in turn remains about a week, and then is replaced by another brine, which should contain eight or ten ounces of salt to the gallon. After a couple of weeks in this brine, a final brine should be used, containing fourteen ounces per gallon. The olive then is pickled, and can be kept in barrels for three years, the brine being renewed yearly, or as often as it becomes discolored. In making the brine only boiled water should be used, especially in the last brine, when the water should be boiled twice, with an interval of twenty-four hours between each boiling. In all cases the salt and water should be boiled together, and the brine put on cold. All scum should be carefully skimmed off, and impurities should be allowed to settle.

Only well-seasoned wood should be used in making the vats, and this should be well soaked previously with strong boiling sal-soda solution. Many have spoiled fine crops by using unseasoned pine or redwood. If the wood be too strongly imbued with its natural resins, a good precaution is to give the interior of the vat a good hot coating of paraffine, which is tasteless, and is capable of preventing all contact of the water with the wood. The olives should be moved from one vat or vessel to another as seldom as possible.

For fancy olives, spices, cloves, etc., are sometimes inserted into the flesh. This, however, is practiced only in rare cases.

The great advantage of the water process is that the natural taste of the olive is altered but very slightly, and there is no oil lost. The tartness being extracted by diffusion, the oil remains in the flesh, while when lye is used there is a certain amount of oil that will be saponified, and, thus becoming soluble, will be extracted by the water. With all the dangers incident to this process, it must be remembered that it enables the grower, when he is successful, to put on the market a far more delicate and more delicious pickle. The main drawback seems to be that few are willing to spare the time to cure olives in this way. With vats properly arranged, and a good water supply, the work is less than appears at first glance.

Lye Process.—The process of extracting the tartness from the flesh of the olive can be greatly shortened by the use of lye before soaking in fresh water. This method requires fully as much care, but as the time is so short, one must devote all his time to this and never allow anything to call him away from the immediate supervision of the pickling vats. The tartness of the olive is so great that it is impossible to tell otherwise than by actual experiment how long the lye should remain in contact with them; it will not do to take anything for granted. When, however, the bulk of the tartness has been removed, it is possible for the taste to be called on for acid. Then, too, the lye must be kept in constant circulation, the bottom lye being drawn off and poured on the top so as to equalize the density of the whole.

One of the first precautions in using the lye process, is to determine the strength of the lye used. As a chemical laboratory is not at the command of all, it is necessary to use only lye that comes from firms that are well known, and who guarantee what they sell.

Some use soda "lye," and others only potash. From the experiments conducted in the olive laboratory of the University, as well as from those of the best practitioners, we feel safe in recommending the use of *potash* in preference to *soda*. It was found that for the same strength of lye solution applied to the same kind of olive, and the same length of time, the potash was preferable. Not only does it take out less of the coloring matter, but it softens the flesh of the olive far less. Firmness being one of the chief requisites of a pickled olive, the deduction is apparent.

Strength of Lye Solution.—One of the objects of the series of experiments undertaken this olive season was to attempt to establish the limits within which it was safe to experiment. The "recipes" for curing olives by the lye process make these limits very narrow. By using the same strength of lye (soda and potash respectively) on a number of varieties, we found that these limits had to be extended greatly. While a lye solution of a certain strength would give in a certain time an excellent pickle of one kind of fruit, the same when put the same length of time on another variety, would spoil the whole. The theory of treating with lye is, that the caustic alkali (potash or soda) attacking the tissue of the olive, penetrates very rapidly toward the pit, neutralizes the acrid substances that render the olive unpalatable, and renders diffusion more rapid, owing to the great difference in the density of the water and the dissolved substances, neutralized or otherwise, to be gotten rid of. *When the lye solution is made too strong*, the outer layer of the flesh is too much softened, while the inner layer is not reached at all; or if the lye is left on long enough to reach the inner layers, the outer layers become so soft that the fruit cannot be kept.

All the experiments made tended to show that the stronger the lye solution the greater is the danger from spoiling, because of softening. As the strength of the solution diminished, the firmness of the flesh of the olive increased. Six per cent lye (nearly half a pound to the gallon of water) was the maximum strength experimented with, and in every case the olives were spoiled. Those to suffer the most were the very ripe ones of all varieties; but more especially was it the case with the fleshy kinds, such as the Macrocarpa, Polymorpha, etc. The Mission, even the very large ones, showed the greatest resistance to the attacks of the lye. Some very curious results were obtained with some of the varieties, tending to show that little or no reliance can be placed upon the reports that come from careless experimenters.

While no good results were obtained from the use of the 6 per cent solutions, no matter how short a time the lye was left in contact with the olives, a very small number of good results were obtained by the use of a 5 per cent solution left on for a short time. The best results obtained from *single treatments* was from 4 per cent potash (five ounces per gallon), left on them from eight to twelve hours. It would seem, however, that it is better to use several successive lye treatments, with a solution of low strength.

Olives treated with lye of 2 per cent strength for a few hours at a time until it ceased to render the fingers "soapy," and subsequently renewed until the tartness was sufficiently reduced, gave very good results in many cases. It was found, however, that in the case of green olives the amount of acridity varied as much, if not more, than in the case of ripe olives; so much so, in fact, that it cannot be said that green olives are either more or less refractory than ripe ones. In some cases the green olives were ready for fresh water with one short treatment with a weak lye, while in others they resisted even after being subjected to the lye for more than twice the time.

One of the curious facts developed was that some varieties, by pickling, lose greatly in quantity or volume of flesh. Thus the Lucques, the Oblonga, the Nigerina and a few others seemed to lose almost one-third of their volume during the treatment. It must be noted, however, that those varieties that lose in volume seem to gain materially in firmness.

Removal of the Lye.—The "bitterness" being neutralized in the olive by the application of lye, the proper time being determined only by the closest watching and constant tasting, the olive is ready for

the fresh-water treatment; for it must be remembered that while the lye *neutralizes* the acrid substances in the olive, *it does not remove them.* This must be done by the use of fresh water. This is put on the olives after the desired condition of neutrality has been reached. The olives should be carefully rinsed several times with fresh water and then allowed to soak for about twelve hours. This must be repeated at regular intervals till almost all traces of the lye have been removed. As in the case of the fresh-water process alone, the greatest care must be taken not to allow the water to stand too long or to become "stagnant." What was said in regard to the necessity of using only the purest of water, and changing this every twelve or twenty-four hours, applies with equal force as when no lye is used. When a sufficient time has elapsed to remove all the lye from the fruit, salt is added to "harden" the olive and to preserve it. The subject of the brine treatment has already been touched upon in connection with the fresh-water process.

THE APIARY.

Various Notes on Beekeeping.

E. Gallup of Santa Ana brings out interesting California points in his writings for the *American Bee Journal.* We shall cull from them:

Gathering Escaped Swarms.—There is one man here who claims that he has beat me. He started in last spring with one colony, and now has thirty-five. But he took his from houses and buildings. I presume that if I had the time I could have had over 100 colonies now, for there has been quite a number of people after me to take them away, and some are even willing to pay for removing them; so anyone can see that it is a very easy matter to start an apiary here. Or, if one wishes, he can gather up a large apiary of wild bees from caves and rocks on Catalina island—where a certain party was going to start a queen-rearing establishment, isolated from all the rest of the world. It was a grand idea, but it never materialized. Any one starting an apiary in the island could work up quite a home market for honey, for it is a great resort for health, pleasure seekers, fishing, etc.—probably one of the finest in the known world. At least so it is said by those who ought to know.

Watering Bees in California.—We have no winter problem to solve here in the valley; even a small nucleus can be wintered as readily as a large colony, and our flow of orange-blossom honey is almost, if not quite, equal to the Eastern basswood flow. I made a test last spring with my one colony, believing that the reason why so little of it was stored was that we did not have the working force on hand at the right time. The orange trees are in bloom over two months, taking the early and late varieties into account, and the flow of nectar was so profuse that in cultivating among the trees with a team, the horses' hair and harness would be glazed over with nectar, and one could scent the smell of nectar for a long distance. So one can scent alfalfa when in bloom, and it is wonderful how the bees do hum on both the orange and alfalfa.

Feeding Through the Top of the Hive.—The last of January I bored a ¾-inch hole in the cover of the hive and fitted in a plug. Every evening I would pour in three or four tablespoonfuls of quite thin diluted sweet. The bees had plenty of honey in the hive, so it only took a little stimulating to set the queen to breeding, and by the first of March, when the oranges are in profuse bloom, I had a strong working force, but did not get the time to attend to them as I ought, as they filled six combs in the super before I was aware of it, so we had some nice, white comb honey for table use, and it satisfied me of the fact that I started in to demonstrate.

Right here I will say that for stimulating I prefer to pour the feed right on the bees. If the feed is of the right consistency, it never injures them at all. It takes but very little feed to stimulate to start breeding, and keep it up, providing we have abundance of honey in the hive for the bees to draw from. It would be poor policy to stimulate to rear a lot of bees and then allow them to starve. No danger of starving as soon as they can gather nectar from outside forage.

Bees can gather pollen here at all seasons of the year. Loquats, or Japanese plums, blossom in November and December and the eucalyptus nearly all winter.

Random Notes.—I hear of one person who has an apiary in the mountains letting his bees starve to death now; and others say their bees have stores enough, by equalizing, to last them through. Mr. Oderlin has extracted three tons, and says his bees are in good condition. His bees had access to forty acres of Lima beans.

My bees are yet gathering more than they consume. I have no extractor yet, and I find many of my colonies have restricted their queen down to pretty close quarters, after all my drawing out so many combs to build up increase; yet, whenever I have drawn out a comb, I have replaced it with foundation. If I had not, I should have had lots of drone-comb. As it now is, I have splendid worker-comb in the breeding apartments.

By the way, I heard quite favorable reports of the Adel bees, or golden Carniolans; so I sent $1 for an Adel queen to test for my own satisfaction, and the scamp of a breeder sent me two in place of one. Some object to them because they are such prolific breeders. When I have a queen that is so prolific that her bees will fill three supers with honey, while ordinary queens only fill one, it never frightens me one particle. I have had such.

Pursuing Bogus Honey in San Francisco.

The city Board of Health has about completed its list of the dealers who sell canned goods that have been found to be adulterated and will shortly begin swearing out warrants for those who have violated the law.

Among the articles that have been closely investigated is honey. Much of the alleged product of the industry of the bees is said to be glucose, and it is expected that the first arrests will be among those who sell the stuff with honey labels on the bottles. The analyses made by Professor Wenzell show that in many cases the bottles only contain 10 per cent of honey and in few cases does it run over 50 per cent.

The warrants for the arrests of the sellers of adulterated honey will all be served in one day, and arrangements have been made with the police courts to handle the cases as rapidly as possible.

THE DAIRY.

Dairying in California.*

NUMBER IV.

FARM DAIRIES IN CALIFORNIA.

The farm dairy, as it is understood at the East, is very rare in California. What has been said of the beginnings of dairy work in this State shows that it did not spring from the farm house. Except at a few points in the early mining regions, where families drove their cows across the plains to the great dairy ranches on the coast, the dairy was man's work from milking to manufacturing. In early times in California women were too rare and precious to send into cow corrals or churn sheds. Profits were large enough to allow the dairy owner to hire all the men he needed, even at the high wages then current, and, besides, petticoats were things of which the cows of that day were in terror. As man was leader, the enterprise had to be large—for the California of that day had a horror of pothering with anything small—and rather than be in bondage to the family cow he would buy his butter and go without milk. While this condition has always prevailed in this State, and while on many ranches there were scores of horses and not a single cow, there has always been some farm-house dairying, and with the increase of thrifty farmers milk and butter for family use are now generally provided, except in settlement of small fruit farmers whose land and time are too valuable for dairy production.

Of the methods prevailing in the California style of private dairies before the introduction of centrifugal separators it is not necessary to speak at length, because they are quickly passing away. The small pan setting of milk was universal until the introduction of the hand separators, because the absence of ice and cold water, except in the mountains, made all deep-setting contrivances impracticable. Various designs for cooling by evaporating water from sacking or other fibrous material surrounding the milk receptacles were proposed, but never widely used, except in keeping cream taken from shallow pans to await churning. Dairy rooms with walls of porous terra-cotta plates, through which water might ooze from an outside source and evaporate from the inner surface, have been projected, but never existed except on the original drawings. Tight double-walled and double-roofed milk houses, closed during the day and opened at night, when the air is always relatively cool in California, are the sum of the cooling arrangements employed except in some of the more generously equipped concerns where small freezing-machine outfits have been introduced.

The frequency of churning in these private dairies depends upon the size of the herd. As some one of alleged skill is employed as butter maker, it is aimed to have milk enough to churn every day; but in the smaller concerns churning is done at different intervals, even once in four days, which is the longest time mentioned by any of our correspondents. In the dry air of California milk keeps in good condition, even though no low temperature can be secured. Dairy butter is almost entirely put into rolls and sold at once. If packed either by the producer or by the city receiver in a time of surplus receipts, the rolls are put down in casks in their original form, packing the rolls as closely as possible without spoiling their shape, and filling the cask with brine. This is known locally as "pickled roll," and it is usually sold, just as it comes from the brine, several months afterwards, though sometimes a sort of renovating process is practiced by freshing and wrapping the rolls in new cloth, but this revived "fresh roll" seldom deceives anybody. More recently the use of cold storage in San Francisco has reduced the amount of pickling. The ruling amount of salt used in California butter, both creamery and dairy, is one pound of salt to twenty pounds of butter, although individual makers report one pound to sixteen. There is a little difference in the amount used in summer and winter, say at the rate of one-eighth of an ounce to the pound more in summer than in winter.

The creamery and farm-dairy butters are sold in the same markets, and the product by the modern method has quite an appreciable advantage in price. This is proving a potent factor in the transformation and re-equipment of ranch dairies, as well as inducing the establishment of co-operative creameries.

THE CALIFORNIA BUTTER ROLL.

The almost universal form given to the California butter product, both from creameries and private dairies, is the two-pound "roll" or "square." The first is a cylinder, the second parallelopipedon. The original form was the cylinder bearing the imprint of the maker on the upper end, and these were originally of two pounds weight and were packed in flat boxes with hinged covers, holding sixty rolls. The depth of the box is a little more than the height of the roll, a cloth being placed over the ends of the rolls when the box is closed. Each roll is wrapped in muslin or butter parchment paper. As purchasers bought the butter at so much a roll, there crept into the trade very early a practice of slightly reducing the weight of the roll, so that the retailer who bought the butter by the weight of the box would have more rolls to sell by the roll. The first retailer who conceived this bright idea was thus enabled to undersell his competitors on the price per roll, and the reduction of the weight was at first so slight as not to attract attention. But the departure from full weight set a vicious example, which was soon followed and exceeded until the "two-pound" roll weighed only 1¾ pounds. Retailers would not buy full-weight rolls because they could not meet the ruling prices for a roll, and the producers were obliged to reduce the contents of their butter molds or lose in the price they could get per pound. This little matter of the size of a roll has been a constant subject of discussion for the last twenty years. Finally, in 1893, the State Legislature passed a law entitled an act to prevent the sale of short-weight rolls of butter: "Any person or persons, firm or corporation, who offers for sale roll butter not of full weight to each roll, shall be guilty of a misdemeanor." But the act does not define a legal roll. No effort has been made to enforce this law, but there has been a growing sentiment in favor of full-weight rolls. The California Dairy Association has resolved in favor of them, and many creameries resolutely make them, but it is probable that it will be some time before the "short roll" will wholly pass from view.

Since the introduction of creamery practice some butter has been marketed in tubs, but probably not more than one-tenth of the creamery product takes that form.

CALIFORNIA FORMS OF CHEESE.

The local form of cheese which was early adopted in California becuse of its portability and ease of cutting was what is known as a "flat." The flat has about the same diameter and half the height of the ordinary Eastern factory size, and weighs from twenty-five to thirty pounds. It had originally the local peculiarity of having the color in the bandage instead of in the cheese—a white cheese in an orange-red bandage. This style still prevails, but "Young America" and Eastern factory styles are now followed to some extent, and the use of color in the curd instead of in the covering is now the rule even when the old form is followed. There has been some disposition to introduce the Eastern style of cheese box, but as the boxing has to be brought in the shook from the East, the use has been limited. Almost all the common forms of cheese originally come to the market "naked" or in packages of three cheeses in a burlap grain sack, and they are delivered by the receivers to the jobbers' or retailers' wagons in San Francisco without covering. When shipped to distant consuming points, two or three cheeses are cased in a square box made so as to fit closely and the cost of casing charged up to the cheese producer. This burden he has always protested against, especially as the charge for casing has been thought to yield the commission man something more than the service actually cost him. More recently a well-made box or case has come into use. It carries several flat cheeses and is returned to the factory by transportation companies without charge when empty.

Almost all the cheese made in California (except that made occasionally in creameries during low butter prices) is the product of proprietary concerns, and probably nine-tenths of it from milk produced by cows owned or leased by the maker. The prod-

*By Prof. E. J. Wickson of the University of California; issued by the U. S. Dept. of Agr. at Washington, as Dairy Bulletin No. 5 of the Bureau of Animal Industry.

uct is therefore almost wholly farm or ranch cheese, but the reader will understand that many of these farms produce as much milk as is received by the smaller Eastern "factories" and manufacture it in as enlightened a manner. Farm dairy cheese, as the term is used in the East, is hardly known in California. In country stores, however, there are always adequate supplies of California dairy or factory cheese, and it is retailed at all prices from 9 to 20 cents per pound, according to quality or distance from producing points. The average price for California cheese at retail is 12½ cents per pound.

Of the cheese branch of California dairying it may be said that it has never been developed as the natural adaptations of the State suggest. The prejudice for Eastern cheese, which has already been mentioned, is a serious obstacle and prevents the local producer from securing even the best of the local trade, which through limited population is necessarily small. There is at present no distant market which invites supply. The lack of inducement is perhaps to be cited as the reason why the local cheese interest has never developed commensurately with the butter interest. And yet California conditions favor the cheese maker in a notable degree. The dry air rules out that condition of "mugginess" which gives the Eastern factory man so much milk which calls for the use of high acid in the curd. The milk, in all save the hot interior at least, is clean and good. Some makers declare that in an experience of years they have never seen a "floating curd," and one maker reports from Humboldt county that it is the "easiest place to make cheese" he ever saw. This is common observation, and the fact the that sweet-curd process is widely employed is also very significant.

(*To be Continued.*)

THE STABLE.

That New York Law About Blacksmiths.

We noted recently the New York enactment requiring horseshoers to make good their knowledge of the horse's foot before being allowed to practice their art. It appears from later information that the law is to go into effect only in cities of over 5000 inhabitants, so the country blacksmith is not disturbed at present. The evident purpose of the new law is to prevent incompetent men from shoeing horses in the larger cities. It is a well-known fact that a large percentage of the lamenesses of horses, especially in the cities, is due wholly or in part to the mutilation of the hoof and improper shoeing by incompetent blacksmiths. Even at the best, every shoeing is an injury to the horse's foot, so that the better the operation the less the injury.

Abuses in Horseshoeing.—F. L. Kilborne writes to the *Rural New Yorker* claiming that horseshoers, as a class, are wedded to a number of traditional practices long handed down from generation to generation that are directly opposed to the preservation of the foot in its natural, healthy condition. They do not consider the shoeing complete and workmanlike unless they have sliced away the greater portion of the frog; carved out the sole until it will readily yield to the pressure of the thumb; "opened up the heels" and rasped off the protecting covering from the lower half or two-thirds of the wall by cutting the hoof down to fit their idea of a shoe, instead of making a shoe to fit the foot. The result is that, instead of leaving the feet as nearly as possible in the condition in which nature made them to withstand the wear and tear of use, they are robbed of their natural cushion and protecting covering, and so weakened as to be subject to concussion, bruises and contraction.

The more ignorant the blacksmith the more tenaciously he adheres to his traditional creed, and the less amenable is he to any suggestions as to a more rational and less destructive method of shoeing. All blacksmiths are not of the class described. There is, occasionally, a progressive horseshoer who is endeavoring to improve his profession, and is studying to improve the methods of shoeing.

Why Confined to Cities.—The application of the law was, probably, confined to the cities because it is there that improper shoeing works the greater injury. The hard, unyielding city pavements, and the more rapid pace at which the city horse is driven, require a strong foot, properly shod, to withstand the concussion. From 50 to 70 per cent of the horses in our cities are lame in one or more of their feet. A large percentage of these lamenesses could have been prevented, and will be avoided as soon as only competent workmen, who understand the proper methods of shoeing, are allowed to shoe our horses.

Every horseman realizes the force of the old aphorism, "no foot, no horse." Is it not time, then, that some step should be taken to correct the many evils of poor shoeing, in order not only to increase the usefulness of the horse, but to relieve him of much unnecessary suffering? The law is a move in the right direction, and it should be gradually extended until it includes all horseshoers of the State.

THE VETERINARIAN.

Treatment of Mangled Wounds.

A RURAL subscriber who has recently had a horse quite severely hurt by contact with the barbs on a wire fence asks for a general outline of treatment for such wounds. We find in an Eastern exchange a carefully prepared statement which seems exactly to meet the case.

What Favors Healing of the Wound.—The kindly healing of all cuts and wounds depends upon two conditions: First, the condition of the animal as regards physical health, not condition as regards flesh, as many times excessive flesh is indicative of disease more than health; and, second, the conditions surrounding the animal. A wound will not readily heal if the animal is kept in some dark, filthy stable, where ammoniacal gases are constantly impregnating the air it breathes and coming in contact with the wounds. Many a wound fails to heal readily on this account, although it may be but a trivial one to begin with. While it is true that the animal "takes cold" in a wound, as farmers call it, and thus inflames the tissues, in far more instances the wound is made to inflame by unhealthy condition in the stable. I speak of these things that farmers may take heed, and if an animal is overfleshy, or has been idle, standing in the stable a good part of the time, a few bran mashes with a fourth pound of Epsom salts added once or twice daily until the bowels are freely moved, will aid much in putting the system in proper condition. As regards the second condition, make the stable that the animal is kept in pure and sweet by a thorough cleaning and keep it thus.

Treatment.—The proper treatment of a mangled wound of the flesh differs from that of the simple wound in there being always present more or less flesh that is partly torn from its proper attachment to surrounding tissues, and is also mangled in such a way as to be ragged in appearance. If it is so much separated as to have no circulation of blood in it, in a few days it will rot away and drop off of itself. But if there is a little nourishment received from blood circulating through it then what is called proud flesh is soon developed. A wound cannot heal with unhealthy granulations in it of this character; or if in weeks or months it does in a measure heal, a callous scar is left that is devoid of skin. The surgeon always with knife and scissors trims and cuts away these mangled pieces of semi-detached flesh, and thus puts the wound at once in a condition so that nature can begin its work properly.

But I realize that not all farmers are surgeons. If they were, there would be no need for this article. What can the farmer do himself when the surgeon is not to be gotten? is the question for me to discuss. Every farmer should be acquainted with a few drugs and know how to use them, even if he cannot properly handle a knife or an artery forceps.

Materials Which Should be Ready.—On every farm should be found a bottle containing four or more ounces of the tincture of chloride of iron. This is a powerful styptic (blood stopper), and when cotton is saturated with it and placed on a bleeding wound, it will stop the flow of blood from the arteries and veins that are in most flesh wounds. I will, therefore, say that when a wound is bleeding to an alarming extent and no doctor is near, if the wound is on the leg, tie a towel above it and twist it tight with a stick and apply the saturated cotton and bind up with a bandage. After a few minutes the twisted towel can be safely removed, as a rule, or at least you can stop the blood in this way until a physician can be gotten to take up the artery. The iron is also caustic and will eat away much of the partly detached mangled flesh, so that when the first dressing is taken off in about twenty-four hours (never sooner), the wound will be found in a fair condition.

Cleansing the Wound.—Now, what next? Unless there is still left a quantity of mangled flesh that will be necessary to get rid of, use carbolized oil. But if there is flesh of this kind left, then we should use a dressing that is a little more a caustic nature than the iron, and as good as any is corrosive sublimate. Always have the druggist prepare this for you, and have it properly labeled "Poison," for it is poison, and a deadly one when taken internally, and yet is safe for ordinary people to use externally, provided they use as directed. Instruct the druggist to finely powder one ounce of the corrosive sublimate and mix with two ounces of finely powdered rosin and have him put it in a wide-mounted bottle. Apply over the wound by using a small wooden paddle about a half an inch wide and six inches long. Dip this in a little water, then in the powder and apply to the wound, applying just enough to nicely powder the whole wound. Let alone for two days, then carefully wash off, only using enough warm water to remove the matter that has formed. Then if there is no more appearance of proud flesh, use the carbolized oil. But if there is granulation of an unhealthy nature still present, apply the powder as before and continue until they disappear. Then follow with the carbolized oil until the wound is entirely healed.

When there is no hæmorrhage (bleeding) do not use the iron, but the sublimate powder, as the first dressing, and when the wound is on a part of the body where it can be done, cover loosely with a clean white cotton cloth.

THE IRRIGATOR.

Windmill Irrigation.

We have often urged the advantage of equipping the farm with its own irrigation facilities so far as possible, and if only enough water for a very small piece of land can be secured it will ensure fresh vegetables and small fruits for the family table, which is really a great consideration. This sort of irrigation is progressing rapidly in the middle West, and California, with all her great enterprises, can take a hint for farm improvement in unirrigated districts from the interior States.

The Advantage Argued.—I. A. Fort of North Platte, Nebraska, writes forcibly on this subject, claiming that the system of irrigation by waters owned and controlled by the owner of the land has many advantages over the canal system, and will quadruple the value of the farms. Water raised from wells has all the value of water from canals for irrigation purposes, and all the annoyances associated with canal companies are avoided. With windmill irrigation the farm owns its own system; it is entirely under the control of the farmer; he has water to use the year around; as he does not have to accept water when the ditch-rider tenders it, he can handle it so as to most thoroughly economize the water. What we want now is for the farmers to take up and adopt this method, and educate themselves how to avail themselves of the benefits of irrigation. They will make mistakes if they attempt to handle too large a quantity of irrigated land the first two or three years, but as they gradually acquire a knowledge of irrigation methods they will reap the benefits that follow the proper and intelligent application of water to growing crops.

How Much Can Be Had from Wells?—In order to show what may be accomplished with windmills and pumps for irrigating purposes, I inclose tables and estimates of the amount of water that can be lifted in twenty-four hours by different sizes of windmills, with amount of land that can be covered one foot deep with water, allowing for the mill working fifteen hours per day for 300 days in the year. The estimates are made on the working power of the wind from reports obtained from the U. S. station at North Platte. The allowance is made that the wind exceeds fifteen miles per hour for more than 300 days in the year, and that the mills might work continuously for the fifteen hours on some days and less than fifteen hours per day other days. [This is more wind than can be counted upon in California.—ED.]

Reservoirs.—The only question with the people in general adopting windmill irrigation is now one of proper storage and handling of the water. Twelve inches with the average rainfall is more than is required to thoroughly irrigate the land, especially if it has been subsoiled and is properly cultivated. With this system fall, winter and early spring irrigation should be used, or, in irrigation language, the land should be kept well wet down. The double reservoir system will be necessary. The figures given for sizes of reservoirs are for holding the water for twenty-four hours continuous pumping; but larger reservoirs should be made of from one to two acres in extent, carrying from 8 to 10 feet of water. An acre reservoir is 209 feet on each side, corners rounded off; two-acre reservoir, 209x418 feet. The bottoms must be well puddled and packed, to prevent seepage. If the soil is sandy or gravelly, hay or straw can be scattered on the surface and cattle can be used to pack the banks and sides.

CAPACITIES OF WINDMILLS AND RESERVOIRS.

Size of mill, in feet.	Diameter of pump cylinder, in inches.	Depth of well, in feet.	Length of mill stroke, in inches.	Number gallons water at each stroke.	Amount of water per hour, in gallons.	Amount of water in 24 hours, in gallons.	Amount of land that can be covered one foot deep by mills working for 300 days in the year at the rate of fifteen hours per day. Acres covered.	Size of reservoir capable of holding water for twenty-four hours continuous pumping on estimate given. Reservoir 4 ft. deep; banks 16 ft. base, 5 ft. high; interior size.
10	8	30	10	1½	3,660	87,840	.....	.....
10	6	50	10	1¼	2,580	61,920	.....	.....
10	4	75	10	⅝	1,320	31,680	.....	.....
12	10	30	12	4½	7,500	180,000	103 acres.	90 by 75 feet.
12	8	50	12	3½	6,300	151,200	86 acres.	90 by 60 feet.
12	6	75	12	1½	2,700	64,800	37 acres.	60 by 40 feet.
12	4	125	12	¾	1,320	31,680	18 acres.	50 by 30 feet.
14	12	30	14	6½	10,620	254,880	146 acres.	125 by 80 feet.
14	10	50	14	4½	7,260	174,240	100 acres.	90 by 75 feet.
14	8	75	14	2¾	4,620	100,880	63 acres.	75 by 50 feet.
14	6	125	14	1¾	2,940	71,560	40 acres.	65 by 40 feet.
14	4	175	14	1	1,680	40,320	23 acres.	50 by 30 feet.
16	5	200	16	1½	1,700	47,680	25 acres.	50 by 35 feet.

Extra reservoir required to reserve overflow after twenty-four hours pumping should be of one and two-acre sizes, holding from 8 to 16 acre feet of water.

Large reservoirs of one and two-acre sizes, 8 feet deep, banks 9 feet high, base 45 feet. A square acre is 209 feet on each side. A two-acre reservoir would be 209x418 feet.

THE HOME CIRCLE.

My Friends.

Slow as I journey on from day to day
I come on other wanderers in my path,
Some sad, some singing, some in bitter wrath,
And some who join me for a little way—

Not always very far. Perhaps we see
That one step moves too slow and one too fast;
Some I have overtaken, loved, and passed.
And some there are who would not wait for me.

Some cross my march just once—across the lawn
I hear a footstep; we shall almost meet!
Alas! We may not stay too long to greet!
A nod, a pleasant word, and he is gone!

How many million friends there are whose lot
Keeps them outside my path for life's short while!
But through the distance and the dark I smile;
For I can love them, though I see them not.

—R. B. Hale.

How Anne Convinced Her Father.

It was on her fifteenth birthday that Anne decided to adopt the medical profession, like her father; but, unfortunately for her, Dr. Green was an old-fashioned man, and would not hear of his only daughter, his "motherless baby" as he still called her, doing anything so "unwomanly." When Anne first told him of her aspirations he only laughed, and told her to run away and play with her dolls; but when he found that she was really in earnest, he looked very serious.

"My dear little girl, you are making a big mistake," he said. "You want to lead a useful life, and you think you cannot do that unless you have ambitions, choose a profession, and make a career for yourself. You don't want to be a mere idler. Of course not. I don't want you to be idle, either. Fit yourself to be the worthy wife of a good man; that will give you plenty to do."

"Suppose no good man happens to want me?" queried Anne.

"Don't trouble your head with such suppositions, little girl. You do your part, and I think there will be no danger of your dying an old maid;" and the doctor looked with pride at the fair young face, though the determined mouth and chin made him a trifle uncomfortable.

Anne said no more on the subject then, but she kept on thinking; and she quietly began to read her father's books, and to sit with him in his office whenever she could. She was so quiet that for a long time the doctor scarcely noticed her presence; and by the time he did notice it, he had grown so accustomed to have her near at hand when he wanted a letter written, or a reference hunted up in some of his big volumes, that he was loth to deprive himself of her assistance. And besides, he dreaded lest any open opposition should only increase Anne's determination.

"She is strong-willed, as was her mother before her," sighed the doctor, who had stood somewhat in awe of his wife, though he loved her dearly. It had really been to her energy and ambition that he owed his position as the leading physician of K—; and, indeed, since her death, his practice had gradually diminished, for he was of an indolent disposition, loving his ease better than money or fame. A younger man had lately come to the town, and by his activity and modern ideas was rapidly encroaching on the older man's domain; but for that Dr. Green cared very little, and contented himself with always speaking of his rival as "that fellow, White."

One morning Anne was sitting alone in the office, her father having been called to visit a patient at some distance. Suddenly there was a violent ring at the telephone behind her. Anne was not startled; her verves were strong.

She answered the call.

"Hello."

"Hello."

"Is that Dr. Green's office?"

"Yes."

"Tell him to come to 449 Front street right away. My daughter's been hurt at the mill. Tell him to come at once."

"Dr. Green is away; will not be back for two hours, at least."

"For Heaven's sake! Can't you get him sooner? Dr. White's away, too; and there ain't anyone else near. The girl was suffering terribly when they took her home from here just now."

"Of course they tried for Dr. White first," thought Anne, bitterly: then she spoke deliberately: "I am Dr. Green's assistant. I will be at the house in ten minutes." Anne blushed as she said it, and hung up the transmitter quickly, to avoid all further questions. She was ashamed at having said what was not strictly true, though she had been prompted by a desire to relieve the father's anxiety. However, there was no time to let her couscience worry her; she must act promptly. First she wrote a message for her father, telling him where she had gone, and asking him to follow as soon as possible. Then she placed in a hand-bag such medicines, bandages, etc., as were most likely to be needed, and within ten minutes she was knocking at the door of No. 499 Front street, a poverty-stricken house. The door was quickly opened by a man with a white, scared face.

"I thought it was the doctor!" he said, in a tone of disappointment. "My daughter's been hurt badly at the mill, and she's suffering terribly. I—I 'most wish she were dead, out of her pain; it is just awful to hear her moan!" He looked wistfully up the street for the assistant who had promised to come.

"I am Dr. Green's daughter, and I will attend to her till my father comes. I can ease her pain, at least."

The man fell back in astonishment, Anne looked such a child, and yet spoke with such confidence.

Guided by the moans of the sufferer, Anne quickly made her way upstairs to the room where the poor girl lay, writhing in agony. Half a dozen women stood around the bed, wringing their hands and shaking their heads helplessly. They fell back as Anne advanced toward the bed with an air of authority. In a very short time Anne had cleared the room of all but the girl's mother, and examined the sufferer. Then she dressed the wound, all jagged and torn by the cruel machine, and administered a hypodermic injection of morphia, which brought quick relief to the weary, pain-racked body.

Then Anne sat down beside the bed to wait for her father. She was far from easy in her mind as to what he would say when he came. She was confident that she had given her patient the best possible treatment, but she feared her father would not consider her fault any the less because of that. Her own conscience told her she was only a girl, after all, and had no right to take a human life in her hands, though she did have confidence in herself.

Soon there came a quick step on the stair and along the hall. Anue stood up, with flushed cheeks, as the door opened.

Instead of her father, she saw a handsome young man, with a somewhat stern face. It was Dr. White. Anne knew him well by sight; and, as a rival of her father's, she disliked him dutifully.

"They told me Dr. Green's assistant was here," said Dr. White, looking round.

"I am Dr. Green's daughter, and I have been doing what I could for the girl while I was waiting for my father. They said you were out of town. I am sorry if I have interfered. I—I will go now," said Anne, growing hot with anger and confusion, as she thought she detected a smile lurking under Dr. White's mustache.

"Please wait a minute, Miss Green. Tell me what you have done; and let me look at your patient."

Anne never knew how long she took to tell what she had done, nor how long Dr. White took to examine the patient, but it seemed to her an age; and all the time the doctor's face seemed to grow more stern. Would he turn and denounce her for daring to risk another's life in her conceit? He might even call her a murderer; he looked cruel enough to do that. Anne very uearly turned and fled. Only a strong conviction that her treatment had been correct enabled her to await the condemnation she expected.

"Do you think your father will be here soon?" asked Dr. White.

"In an hour or so," faltered Anne.

"Then I will leave the patient in your hands until he comes. You have done everything that can be done for the present. I could not have doue better myself; and that means a great deal when I say it."

Anne's heart beat high with pride; but she tried to keep cool.

"I had no idea you would be here so soon, or I would have waited," she said, meekly.

Dr. White looked her up and down curiously.

"How old are you?" he abruptly asked. "Sixteen," answered Anne, still meekly. It was not very often that Anne was meek.

"Only sixteen?" A mere child! What will you be when you grow up?" He spoke musingly, not expecting an answer. But Anne replied boldly:

"I shall be a doctor, as soon as I can. My father doesn't want me to, but I think he will let me some day."

They had come out of the room by this time, and were standing at the top of the stairs.

"He ought to let you, when he sees what you have done here. I must be off to my office now. If I can be of use to you at any time, my child, let me know. I will even try my powers of persuasion on your father, if he stands out against your joining our profession."

"Oh, please don't do that! If *you* said anythiug about it, he would be worse than ever."

"Is that so?" Again the suspicion of a smile lurked under Dr. White's mustache. "Then I hold my peace. All the same, I shall watch your career with interest. You ought to be a clever woman—when you grow up."

As he spoke, Dr. White started to descend the stairs, but suddenly turned and looked at the sober face above him. Then he held out his hand.

"Good-bye, little girl. We part good friends, don't we?"

Anne responded with a hearty grasp. "Yes. I think you are very kind. Only I am not a little girl."

Having comforted her pride with this protest, Anne went back to the darkened room to dream of a bright future while she waited for her father.

It is needless to say that when Dr. Green arrived he was strongly impressed with the skill displayed in Anne's treatment. That evening he gave her his permission to begin at once to train for the profession for which she had shown such natural aptitude.

In a few years Anne was a duly qualified physician, and returned to practice in her native town. This story is only about how Anne won her father's permission to be a doctor, so I must not go into details about the rivalry which at first existed between her and Dr. White; nor how the rivalry gradually faded and gave way to friendship, until, finally, Dr. White proved to be the good man who wanted a worthy wife, and did not deem Anne any the less worthy because of her professional skill.

Gems of Thought.

Who repairs not his gutter repairs his whole house.—Spanish.

Self will is so ardent and restive that it will break a world to pieces to make a stool to sit on.—Cecil.

Great souls attract sorrows as mountains do storms. But the thunder clouds break upon them, and they thus form a shelter for the plains around.—Richter.

Dreadful things slip off one's tongue when angry, things that spring up at the moment, and come out hot, and which they afterwards repent of having said.—F. F. Montressor.

In England I found a cultivated person fitly surrounded by happy home, with honor, love, obedience and a troop of friends * * * In Wordsworth's household comfort and culture were secured without any display.—Emerson.

Whoever shall call to memory how many and how many times he has been mistaken in his own judgment, is he not a great fool if he does not ever after suspect it? When I find myself convinced by the reason of another of a false opinion, I do not so much learn what he has said to me that is new, and my own particular ignoraunce, that would be no great purchase, as I do in general my own debility and the treachery of my understanding, from whence I extract the reformation of the whole mass. In all my other errors I do the same, and find from this rule great utility to life. I regard not the species and individual, as a stone that I have stumbled at; I learn to suspect my steps throughout, and am careful to place them right. To learn that a man has said or done a foolish thing, is a thing of nothing. A man must learn that he is uothing but a fool—a much more ample and important instruction.—Moutaigne.

Dumpey.

Dumpey was a drummer in a foot battery of the United States artillery stationed at one of the harbor posts in the East. His descriptive list showed him 5 feet 1 inch high, sallow complexion, brown hair, and thirty-six years of age. There were only two things he could really do well—drum and drink; so the junior lieutenant of the battery, who was his "good friend" (to use Dumpey's own words), dubbed him D-2.

There were a number of boys in the garrison and we were all on intimate terms with Dumpey. To us, in spite of his thirty-six years and the fact that he had served through the four years of the rebellion, he seemed but a boy. He was always good natured; ready for a swim or fish; ready to play ball; and sometimes, when in a particularly amiable mood, ready to give us a lesson on the drum, which he considered the "king of instruments."

"Fiddles are all right," he said once when the colonel's son ventured to differ with him, "fiddles are all right, but," with a superior smile, "not for soldiers. Did you ever hear tell of a fiddler of Chickamauga? Come, answer me that."

Of course we sided with Dumpey; what real boy wouldn't?

I can see him now, with his drum slung from his neck, his little figure drawn up to its full height, proudly showing us how to make the drum "talk."

"This is what we played at Mission Ridge," and then he would begin.

One heard the tramp of marching feet, the thunder of cannon, the rattle of musketry, the shouts and hurrahs of the men, and, above all, the rub-a-dub-dub, the rub-a-dub-dub of the drum. It sent the cold shivers down our backs, the blood jumping through our veins, and our boyish hearts thumped and thumped until we thought they must surely burst; then he would change, and in an instant all was different.

The slow and solemn beat of the muffled drum; the long, melancholy, almost human, roll, and we knew that the battle was over and that the dead were being laid away to their last rest. The tears were in our eyes, a choking in our throats, and then

They dressed me up in sojer clothes,
They treated me so kindly,
And yet I never could forget
The girl I left behind me—

And we'd fall in and march behind our friend until we reached the battery quarters.

Sometimes when the grizzled first sergeant of the battery was inclined to be pleasant, we would stay to dinner with Dumpey; bean soup, pork, bread and coffee, with a real live cook's bully (soldier) to wait on us, just as if we were full-fledged battery men.

These were our happy times; there were sad ones (usually at pay day) when poor Dumpey would fall from

grace and disappear from among us for days at a time. Sometimes he would be in the guardhouse, sometimes in the hospital. We never spoke of it, and when the fit was over he would be safe for a few more months.

It was a sad day for the battery, and particularly for Dumpey, when the junior lieutenant left our post by transfer. The very next pay day Dumpey was in the guardhouse with general charges against him. Intercession proved of no avail. The captain was determined to make an example of him; but the court was lenient, as, after a month's confinement, Dumpey came back to us, but an altered man. Not that his manner had changed toward us; he was still our friend, but his boyishness and lightness of heart seemed gone.

"He'll get me yet," was all he said when we asked him the trouble. "He," of course, meant the captain, who for some unaccountable reason had taken a strong dislike to the lowly drummer. Things went from bad to worse. Dumpey was in the guardhouse continually—first for one thing and then for another, which, though trivial enough in their way, were rapidly building up a bad reputation for him, which he did not really deserve.

The end came when they found him drunk on guard. The general court, which tried him, found him guilty and sentenced him to be drummed out of the service. The colonel wrote to the reviewing authority rather strongly in his favor; but Dumpey was doomed. Nothing could save him, and the sentence was duly confirmed.

Never did sun shine brighter; never were skies bluer; never was nature more generous than on that dreadful May morning almost thirty years ago. We had all been to see Dumpey at the guardhouse the night before. We had shaken hands with him and carried him such boyish gifts as we could to assure him of our loyalty and friendship, and he, poor old boy, had turned away from us and wept like a child.

It was the first and only time I had ever seen a man drummed out of the service. I can never again see such a shocking sight of man's inhumanity to man.

Almost thirty years ago—I was a very young boy then, still I remember that the sun was bright and that skies were blue; I remember that the air was soft and balmy; I remember that the flag, emblem of liberty and equality, threw out the glory of its stars and stripes straight and strong to the morning breeze; I remember that we all stood huddled together, waiting—and—then it came.

First the drums and fifes; then two platoons of men fully armed and equipped, their bayonets flashing and sparkling in the sunlight, and between them, Dumpey, with head closely cropped, and on his back a board marked "Drunkard!"

And still—the sun shone, the skies were blue, and the flag flapped gaily overhead.

On they came, the drums and fifes playing the "Rogues' March."

Poor old soldier; poor old soldier,
Tarred and feathered, and then drumm'd out,
Because he couldn't keep sober.

Our hearts were in our throats, but we clenched our hands and held our places like men.

There was no music in the march; it was simply a wailing and sobbing of the drums—the drums to drum Dumpey out of the service: Dumpey, their champion, their hero, their king.

But on they came—

Poor old soldier; poor old soldier—

Just as they passed us we heard some one ask:

"What makes him walk so queer? He seems to be limping."

Every boy there could have told him that it was the bullet he got at Mission Ridge, which the doctors had never been able to take out.

And on they came—

Tarr'd and feathered and then drumm'd out

At last they reached the sally port—

Because he couldn't keep sober,

shrieked out the fifes, and a moment later Dumpey stood outside the fort, a free man.

And then—this worthless outcast, this drummed out drunkard, the limping, halting, wounded ex-soldier, who had played a man's part in the bitterest war the world had ever known, this drunken Dumpey, halted, quickly took the board marked "drunkard" off from his back, and, baring his closed-cropped head to the morning sun, looked up toward the flag and bravely cried out:

"Three cheers for the Stars and Stripes."

I have never forgotten it. Please God, I never will.—N. Y. Sun.

Curious Facts.

The eight great water companies of London now supply nearly six million people with about 180,000,000 gallons of water a day.

The per capita cost of living in New South Wales is the highest in the world, being nearly $200 per head per annum. In the United Kingdom it is about $160, in the United States $170, and in Canada $120.

Queen Victoria has been Queen of Great Britain during the administration of Van Buren, Harrison, Tyler, Polk, Taylor, Fillmore, Pierce, Buchanan, Lincoln, Johnson, Grant, Hayes, Garfield, Arthur, Harrison and Cleveland.

There are now in the Argentine Republic about ten million cattle, and the remarkable thing about them is that they are all descendants of eight cows and one bull which were brought to Brazil in the middle of the sixteenth century.

Calcutta, India, is a great educational center, one of the greatest in the world. It has twenty colleges, with three thousand students, and forty high schools, with two thousand students. In the city there are altogether about fifty-five thousand English speaking and non-Christian natives.

An intelligent foreigner is said to have expressed himself after the following fashion on the absurdities of the English language: "When I discovered that if I was quick I was fast, if I stood firm I was fast, if I spent too freely I was fast, and that not to eat was to fast, I was discouraged; but when I came across the sentence, 'The first won one one-dollar prize,' I was attempted to give up English and learn some other language."

DOMESTIC ECONOMY.

Domestic Hints.

Scalloped Mushrooms.—For scalloped mushrooms put over the fire in a saucepan a generous tablespoonful of butter, and stir into it one tablespoonful of flour. Gradually add one cup of white stock and the same amount of cream. Cook them ten minutes before seasoning with salt pork, paprika and a tablespoonful of chopped parsley. Meanwhile cut the stalks from fair-sized mushrooms, chop them and add to the sauce. Butter a pudding dish, and arrange in it two layers of mushrooms, and pour over them the prepared sauce. Cover the top with a layer of fine crumbs, and put bits of butter over them. Bake in a brisk oven about fifteen minutes, having the crumbs well browned, and serve.

Oyster Sauce.—Oyster sauce is a desirable accessory of many dishes of meat, and may be either white or brown. White oyster sauce is made as follows: Put the oysters in a saucepan and cook for five minutes; drain them and place in a bain marie, having reserved their juice in a bowl. Then put four ounces of butter into a saucepan, with two ounces of flour, a little cayenne pepper and salt. Stir these well together, while moistening with the oyster juice and some rich cream. Stir the sauce on the fire, keeping it boiling for ten minutes, and then pass it through a tammy on the oysters, which have been kept hot in the bain marie. Brown oyster sauce is prepared in the same way, only instead of cream substitute an equal quantity of brown gravy. This sauce goes particularly well with a beefsteak pie, broiled slices of codfish and various plain meat dishes.

Apple Shortcake.—This is not so well known as strawberry shortcake, but it is equally good when well made. The usual directions for shortcake result in the plainest of soda biscuits; but this is a great mistake as such dishes are not supposed to be concocted with a single eye to the benefit of the nursery. What is needed is a reasonably plain pie crust, which, by being handled like puff paste, can be made very nice. This paste is rolled into two thin layers and lightly baked on a jelly tin, placing one on top of the other, but being careful not to press them together. When baked they can be separated with much greater ease than if made into one cake and pulled apart. Rich apple sauce should then be liberally spread between the two layers of crust and on top, and served with cream.

Hot Pot.—Take half a pound of steak, or, if preferred, three-quarters of a pound of neck chops; cut them into neat pieces, but not too small. Peel one and a half pounds of potatoes and two large onions. If possible, have a large jar with a lid. Put a layer of the meat at the bottom of the jar, then a layer of sliced onions, next a slayer of sliced potato; sprinkle over a little flour, pepper and salt, then again a layer of meat, then onion, and so on until the jar is nearly full; end with a layer of potatoes, not sliced, but cut in halves, unless they are very large, then cut them in quarters. Sprinkle over with flour, pour half a pint of cold water or stock in the jar, put the lid on and put it in the oven. When it is nearly done remove the lid and allow the potatoes to brown.

Hints to Housekeepers.

Soap used on the hair is apt to make it brittle. If any is to be used, tar soap is the best, and after using rinse the hair in several waters in which a little powdered borax has been dissolved.

To remove a refractory screw from wood, heat a piece of iron red hot, and hold it on top of the screw for a minute or two; then the screwdriver will easily take out the screw if used while the screw is warm.

After each meal a house should be aired, if but for five minutes. One remaining in the house does not notice the close, heavy air, but a guest coming in will be unpleasantly impressed as he enters the door.

In this season of pickling, when many onions are used, it will be much more comfortable work if this vegetable is peeled and sliced under water. Hold in the lap a large bowl filled with clear water, and work with the hands under water. Onions done in this manner will not cause tears or stained fingers.

If you have a spare window in a cool room, try growing petunias. Take up small garden plants before they are frost bitten, pot them in good earth and trim them, removing all buds. Place them in a cool room with plenty of sunlight and keep well watered. Before many weeks one will be amply repaid for her trouble.

Most medical men consider that a cold bath every morning is apt to do more harm than good to any but persons of a very vigorous constitution. The sensible thing to do is to see that the temperature of the water in cold weather is not lower than that of the air. A daily bath is most healthful, but it should not be so cold as to give a shock to the system.

Wash your glassware in two waters if it becomes dusty, using a tooth brush to clean places which are obstinate about becoming clear. If regularly used one water is sufficient. Pour a dishpan full of hot water, and wash the glass with a clean cloth, using plenty of good soap. Keep the water hot, and let the glass lie in it until hot also. Dry quickly on a dry, soft cloth. Soap is essential to secure clearness and brilliancy. Every little crease and projection will glitter and scintillate with varying colors, a pleasure to behold.

Velvet coats are very elaborately embroidered with beads and braid this season, and fur bands are added to complete their elegance. The high collar is finished at the back, like the capes, with loops and bows of black satin ribbon, and ribbon ties around the waist with a bow and ends in front.

If tablecloths and napkins are stained with peaches, berries, pears, coffee or tea, before being washed they should be spread over a small tub, pouring boiling hot water through the stains. Have plenty of it and do not be discouraged if the stain does not start at once. Try, try again. Then wash as usual. Of course, the fresher the stain the easier it will come out.

When your fire is not in a proper condition for broiling chops, they will be found to be equally good if breaded and baked in a hot oven. Use loin or rib chops, take out the bones, roll them in as compact form as possible, and lay in a deep pan, with some of the fat trimmed from them under each one. Make a dressing from fine stale breadcrumbs, season with salt and plenty of white and red pepper, moisten with melted butter and a beaten egg. Spread smoothly over the chops, and bake until they are easily pierced with a fork and brown on the top.

A new dish of potatoes consists of mashed potatoes and lean cooked ham. Mash half a dozen boiled potatoes, and season with butter, milk, salt and pepper. Mix with the potatoes two heaping tablespoonfuls of ham chopped very fine, a tablespoonful of chopped parsley, and a teaspoonful of onion juice. Beat until very light, and turn into a buttered baking dish. Smooth and scatter the top with a layer of fine stale breadcrumbs. Brown in the oven. If mashed potatoes that are left over are used for the dish, heat them before mixing with the other ingredients.

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Cashmere Dress and Tailor Gown.

A CASHMERE DRESS.

1017—Francine Frock.

Sizes for 8 and 10 Years.

The little frock illustrated is of cadet-blue cashmere trimmed with rows of narrow, black velvet ribbon. The straight, full skirt is finished at the foot with a deep hem and banded with rows of the velvet. It is gathered to the waist, and on each side of the front several tucks headed by rows of velvet are run down five or six inches, the velvet bands ending in loops. The lower, close-fitting parts of the sleeves are trimmed to match, and so is the square bertha. The waist is the regulation full "baby" style, held in place by a fitted lining, and the yoke is of Irish point lace. Velvet or fancy silk can be used for this, if preferred. Fancy or plain woolens may be used for this model.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

A SMART TAILOR GOWN.

1010—Yates Basque.

Sizes for 34, 36, 38 and 40 Inches Bust Measure.

A smart tailor gown—the "Yates" basque and "Carroll" skirt combined. The basque is very short, simply flaring over the hips and pointed in the back as well as in the front, or else cut with a short postilion. There is a great variety in the arrangement of the fronts, which may open to disclose a waistcoat and chemisette and tie, or be finished high in the neck to wear the favorite stock collar. Braiding is the favorite trimming for these gowns. Our model gown is of plum-colored melton cloth. The waistcoat is of lavender-faced cloth, fastened with small pearl buttons. Smoked pearl buttons and loops of black cord finish the fronts of the basque, and the revers are trimmed with a cord. The high puffed sleeve is becoming and of conservative size, a style which is to be the favorite this season.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

999—Carroll Skirt.

Sizes, Medium and Large.

A popular design, having five breadths and is of conservative width, measuring four and a half yards around the bottom. The favorite finish for the bottom of the skirt is a deep facing of haircloth or canvas and velveteen binding. Silk, cotton or woolen fabrics may be chosen for this model, and it may be worn with any style of coat, basque or waist.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

Fashion Notes.

Scraps of old brocade are in great demand, both by modiste and coruturiere. They are used for hat crowns and belts or for dress trimmings. The stiffer they are with gold or silver threads the better, and a breadth or whole skirt is better than a scrap. But they are difficult to find. In a shop of antiquities in a provincial city near Paris last week, the attendant said that an agent from a large dressmaking establishment in Paris had just been there in search of these stuffs. He had made a good bid for pieces of Louis Quinze draperies. There is no doubt that these brocades will be used on reception and dinner toilettes, and pieces too faded or worn for use are eagerly secured by the manufacturers as designs to copy in the new stuffs.

Very narrow plaiting is a favorite dress trimming. A costume of gray camel's hair is made up in a plain princesse fashion. The waist closes at one side, and the skirt, waist and sleeves are, as one enthusiastic young woman expressed it, absolutely smothered in pinked cut ruffles of fridescent taffeta. In addition to the plaiting, these ruffles are plaited, then drawn out a little to make fans, which are laid so as to form bands of trimming from shoulders to the waist line, as outlines for yokes and to supply the place of the almost collapsed sleeves. One dress has an outlined yoke of very narrow pinked and plaited ruffling. From the seams where the sleeves are sewed in are similar ruffles of varying widths, the lower one being about fourteen inches wide and the upper one not over five inches wide.

Among the interesting and surprising developments of the year is the announcement by the leading costumers that the average waist is at least two inches larger than it was a year ago. This is called the bicycle waist, and its advent is hailed with delight by philanthropists and all those who are interested in the welfare of the human family.

Never before have we had such a variety in wraps, coats and fancy jackets. Every conceivable shape and a great diversity of colors are seen in this medley of outside garments; and whether it is a cape, a jacket or a long evening cloak, the extreme high collar is the feature that prevails. The rolled collar is still worn and is much more becoming than the high affair, which entirely covers the ears.

The most elegant evening cloaks are long, loose garments plaited into a yoke, and made both with and without sleeves. Sleeves are preferable, however, since they are large enough to be easily put on and off and so much warmer.

Velvet, satin and smooth cloths are the popular materials, and black satin lined with rose color makes an especially desirable evening wrap.

Black peau de soie is also used, and sometimes with sling sleeves and a pointed collar is trimmed with jet and beaver. Another idea carried out in black velvet has a high collar and yoke embroidered with jet and gold and a trimming of lace and sable over the shoulders. Any of the pretty shades of smooth cloth can be made up in this way with a cheaper fur trimming, and still produce a very desirable effect.

Long garments are not confined to evening wraps this season, for there is an endless variety of ulsters and pelisses made of warm cloth and lined with silk or fur for day wear. The ulster with the cape sleeves is very stylish, and these cloaks, unlike the evening wraps, are fitted closely in the back to define the figure. The high collar and revers are covered with fur, and the sleeves are moderate leg of mutton.

There is a wide choice in jackets, and short, loose coats made of the same material as the street costume are in good style. They usually have the plaits in the back, and are lined with silk and faced on the revers, collar and cuffs with velvet.

Cloth, both rough and smooth, in shades of blue, tan, brown, green, gray and black, is made into coats for wear with any gown, and military trimmings in braid and buttons are very popular on the close-fitting jackets. These have the high collar, which is not at all military in shape, and are medium in length.

There are double-breasted and single-breasted coats, close-fitting and loose sacques, but they are all more or less trimmed with sleeves which flare over the hand.

Odd mixtures of fur and velvet are seen, and little fur boleros will be much worn.

A pretty jacket of gray cloth is edged everywhere with a narrow black and silver braid, and has a Persian lamb collar. One very odd combination is a green cloth coat fitted closely in the back, loose and double-breasted in front and outlined on the seams with black braid edged on each side with a small black and gold cord. The revers are covered with wallflower velvet edged with astrachan.

There are very elegant black and white striped silks in the market, also black and white woolens with lengthwise stripes. These materials are of very high class, but are made up with little or no trimming. They are perfectly allowable when plain, but if any garniture is used it must be of the very best sort.

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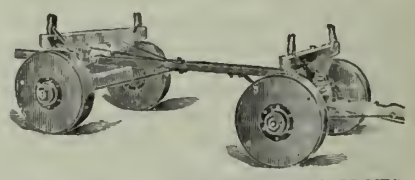

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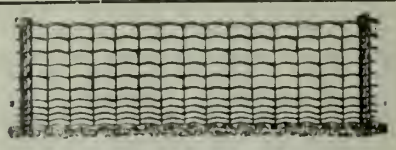

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Of Interest to Inventors.

All inventions are classified in the United States Patent Office. The present classification, revised January 1, 1895, contains 213 classes, subdivided into 6322 sub-classes. Persons desiring to inform themselves in regard to the state of the art in any line of invention can best do so by purchasing printed copies of the specifications and drawings of patents in the sub-class containing the invention, the number and class of which will be given upon application to the Commissioner of Patents at Washington. Those wishing to subscribe for the printed copies of specifications and drawings of future patents in any sub-class may do so by depositing any amount from five dollars upward, the sum depending upon the size of the sub-class. The copies will then be mailed to them weekly at the rate of three cents each, until the deposit shall have become exhausted, when notice will be duly sent for renewal of deposit if desired. Orders for specifications and drawings by classes should give the numbers as well as the titles of the class and sub-class. Orders for single patents should give the number and date of the patent and the name of the inventor. Drawings of all patents from earliest to present date have been photolithographed, with few exceptions. The cost of copies of drawings with specifications, if printed, is five cents per copy. If the specification has not been printed an additional cost of ten cents per one hundred words of manuscript copy will be charged. For the convenience of persons ordering copies of patents, or of the *Official Gazette*, coupon orders, good for one drawing and printed specification or one number of the *Gazette*, are sold in quantities of twenty or multiples thereof at five cents each. These may be used singly, and are good until used. The *Official Gazette* contains a copy of all patents issued, and is published weekly at five dollars per year. All subscriptions must begin with January or July numbers. There are no club rates, no discount to dealers, no free sample copies, and all subscriptions must be paid in advance. All correspondence relating to the above should be addressed to the Commissioner of Patents, Washington, D. C.

THE farmers of north Holland, says a correspondent of the *Gas World*, have come into possession of a very interesting source of lighting. About forty years ago borings for water in the polders around the Haarlem lake, at farms below the level of the surrounding sea, brought up inflammable gas; but, as this gave no light, it was neglected. Now, however, this gas is being systematically bored for, and it comes up mixed with sweet water, making this water effervesce. The effervescing water is brought under a gas holder, and the gas is liberated while the water flows on. About 6 cubic feet per hour are thus collected from each boring, and the singular result is that many outlying farms, away on the polders of north Holland, below sea level, are brightly lit up at night by incandescent burners.

NEW JERSEY now has 29.72 miles of railway to every 100 square miles of territory. This is a larger percentage of track to area than is contained in any other State. Massachusetts comes next, with 26.35; Pennsylvania next, with 21.67; Ohio, 21.13; Connecticut, 20.81; Rhode Island, 20.37. In the proportion of railroad mileage to inhabitants Arizona leads, there being 208.51 miles of railway to every 10,000 of population in that territory.

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With LOCAL APPLICATIONS, as they cannot reach the seat of the disease. Catarrh is a blood or constitutional disease, and in order to cure it you must take internal remedies. Hall's Catarrh Cure is taken internally, and acts directly on the blood and mucous surfaces. Hall's Catarrh Cure is not a quack medicine. It was prescribed by one of the best physicians in this country for years, and is a regular prescription. It is composed of the best tonics known, combined with the best blood purifiers, acting directly on the mucous surfaces. The perfect combination of the two ingredients is what produces such wonderful results in curing Catarrh. Send for testimonials, free.

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An Octogenarian.

The Cure of Mr. David Ingersoll, of Elk Creek, from Rheumatism.

From the Nugget, Chehalis, Wash.

In Elk Creek, Pacific county, Washington, there resides an old gentleman named David Ingersoll, who, though between 80 and 90 years old, does not look more than 60, and furthermore he appears as though he never had a day's sickness in his life. This is not quite so, however, for last fall Mr. Ingersoll was taken with rheumatism in the hip and leg, and got worse and worse until the old gentleman could not move from his chair, and he thought that at his advanced age his recovery was an impossibility. So set was Mr. Ingersoll in the belief that nothing would help him that it was many days before his son-in-law, Mr. Jerome Dana, was able to prevail on him to try Dr. Williams' Pink Pills, which the latter was enthusiastic over from a wonderful cure they had effected on an old lady friend of his in Michigan, who had been a great sufferer with rheumatism.

At last he tried them, and a supply was obtained from Dryad, which immediately began to do their work, so that in a space of two or three months he was virtually cured. Then the supply gave out, and the rainy season coming on, the rheumatism again began to assert itself, and as it was impossible to make connection with Dryad during the rainy season, he was relapsing into his former condition, and continued so to do until a new supply of the pills could be obtained. Then they did their work thoroughly and well, and it was not long before Mr. Ingersoll was able to discontinue them. Since that time Pink Pills have always been kept in store by the old gentleman, and he declares he will never be without them again.

A full account of this matter appeared in *The Nugget*, which gives Mr. Ingersoll's own account of his cure, in full.

Dr. Williams' Pink Pills contain, in a condensed form, all the elements necessary to give new life and richness to the blood and restore shattered nerves. They are also a specific for troubles peculiar to females, such as suppressions, irregularities, and all forms of weakness. They build up the blood, and restore the glow of health to pale and sallow cheeks. In men they effect a radical cure in all cases arising from mental worry, overwork or excesses of whatever nature. Pink Pills are sold in boxes (never in loose bulk) at 50 cents a box or six boxes for $2.50, and may be had of all druggists, or direct by mail from Dr. Williams' Medicine Company, Schenectady, N. Y.

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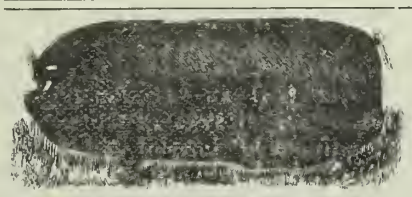

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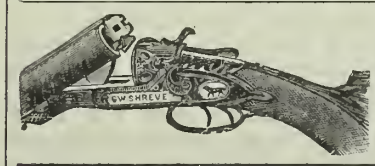

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List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR WEEK ENDING NOVEMBER 3, 1896.

570,785.—NECK YOKE—J. S. Brown, Eureka, Cal.
570,537.—CLOTH CUTTER—J. Brusle, Oakland, Cal.
570,841.—OPERATING WINDOWS—M. M. Canfield, Seattle, Wash.
70,661.—STEP LADDER—W. B. Cantrell, Seattle, Wash.
570,623.—SHIFTING APPARATUS—A. Chavanne, Grass Valley, Cal.
570,843.—ORE SEPARATOR—H. M. Copland, Scottsburg, Or.
570,746.—CAR AND RETORT—Curtis & Isaacs, S. F.
570,789.—NUT LOCK—E. Fluehr, Sprague, Wash.
570,727.—VALVE—H. B. Gale, S. F.
570,628.—LETTER BOX—F. G. Gaschlin, S. F.
570,550.—LIFTING JACK—W. L. Hall, Spokane, Wash.
570,705.—POWDER—F. A. Halsey, San Rafael, Cal.
570,753.—HAY LOADER—J. T. Hare, Fresno, Cal.
570,799.—BARREL BUNG—J. Henn, S. F.
570,756.—STEAM TURBINE—R. Hewson, S. F.
570,665.—SASH FASTENER—C. Hoffman, Spokane, Wash.
570,636.—IRONING TABLE—C. L. Hofwolt, Santa Rosa, Cal.
570,637.—CHAIN LINK—B. Holt, Stockton, Cal.
570,807.—STOCKING—J. H. Jessen, S. F.
570,639.—POLISHING MACHINE—Jessup & Wheelan, S. F.
570,483.—AIR BRAKE—C. W. June, Ellensburg, Wash.
570,640.—COOKING PAPER STOCK—M. D. Keeney, Antioch, Cal.
570,641.—COOKING PAPER STOCK—M. D. Keeney, Antioch, Cal.
570,643.—ROTARY PUMP—J. D. Keller, Santa Clara, Cal.
570,601.—RAILWAY SPIKE—E. E. Knight, S. F.
570,670.—SASH LOCK—D. O. Livermore, Los Gatos, Cal.
570,763.—FRUIT BOX—E. R. Morrill, Truckee, Cal.
570,649.—GAS ENGINE—R. J. Rolfson, S. F.
570,584.—ROTARY ENGINE—C. G. White, Woodland, Cal.
570,526.—WATER ELEVATOR—M. H. White, Wanatchee, Wash.

NOTE.—Copies of U. S. and Foreign patents furnished by Dewey & Co. in the shortest time possible (by mail for telegraphic order). American and Foreign patents obtained, and general patent business for Pacific Coast inventors transacted with perfect security at reasonable rates, and in the shortest possible time.

THE observers at the Blue Hill observatory have sent definite details of their great kite ascension of October 8, when records were made with their meteorograph at a height of 9,385 feet above a level. More than three miles of piano wire were paid out, the ascension beginning at 9:15 A. M. and ending at 9:05 P. M. The pull on wire was from twenty to fifty pounds at the start, and ranged from fifty to ninety-pounds at the highest point, after which it slowly decreased. The instrument entered and passed through the clouds, as shown by the record of very dry air above the clouds. The temperature fell from 46° at the hill to 20° at an altitude of 8,750 feet. The meteorograph record in ink on a revolving cylinder run by clockwork was the best yet obtainable. The lifting force consisted of seven Eddy and two Hargrave kites from 6 to 9 feet in diameter, and the ascension was managed by Clayton, Fergusson, and Sewatland of the observatory. The instrument was more than a mile high during three hours. This breaks all kite altitude records. The height, 9,385 feet, is about 1,000 feet less than two miles.—Scientific American.

A RETAIL hardware dealer in England said in the *Ironmonger* recently that 90 per cent of the files he sells come from America, instead of Sheffield. The American manufacturers keep large stocks in London, and fill orders with great promptness. "The American price lists give exact information regarding sizes and grades, and promise delivery in three days from London. A Sheffield price list requires prolonged study to comprehend it, and when an order is sent to Sheffield it may not be filled for four weeks, or even eight weeks. This tardiness in filling orders has been a matter of weekly experience for twenty years."

SOME time ago the Russian Government contracted with the Carnegie works for a quantity of armor for one of its war vessels, and stipulated that its inspector should have full access to the works during its manufacture. Now it is said that the inspector has possessed himself of the secret of armor manufacture, and he will use it for the benefit of his Government in Russian workshops.

PROF. FHELTOHUE says that if we reckon the depth of all oceans at an average of three miles there would be a layer of salt 200 feet thick in their basins, should the waters of all suddenly evaporate.

COMMISSIONER OF LABOR CARROLL D. WRIGHT's statistical bulletin concerning convict labor in the United States shows that the total number of convicts in penal institutions in the various States in 1885 was 41,887; in 1895, 54,244. In 1885 the number engaged in productive labor was 30,853—73.7 per cent of the total number; in 1895 the number engaged in productive labor was 38,415, or 70.8 per cent. The total value of goods produced or work done in the United States for the various States and Territories in all the State prisons and penitentiaries for 1895 was $19,042,472. In 1885 the total wages paid by contractors and lessees for the labor of convicts, from which resulted a product of the value of $28,753,999, was $3,512,970, or $1 of convict labor wages to $8.19 of finished product of convict labor. At the present time, in all probability, the total value of the labor expended by the convicts in the State penitentiaries and prisons of the country is about $2,500,000.

THE late Dr. Brown Goode made the following comparison in a report of the United States National Museum: "There is not a department of the British Government to which a citizen has a right to apply for information upon a scientific question. This seems hard to believe, for I cannot think of any scientific subject regarding which a letter, if addressed to the scientific bureaus in Washington, would not receive a full and practical reply. It is estimated that not less than 20,000 such letters are received each year. The Smithsonian Institution and National Museum alone receive about 6000, and the proportion of these from the new States and Territories, which have not yet developed institutions of learning of their own, is the largest. An intelligent question from a farmer of the frontier receives as much attention as a communication from a royal academy of sciences, and often takes more time for the preparation of the reply."

A STATISTICIAN has learned that the annual aggregate circulation of the papers of the world is calculated to be 12,000,000,000 copies, says the *Northeastern Lumberman*. To grasp any idea of this magnitude we may state that it would cover no less than 10,450 square miles of surface, that it is printed on 781,241 tons of paper, and, further, that if the number 12,000,000,000 represented, instead of copies, seconds, it would take over 333 years for them to elapse. In lieu of this arrangement, we might press and pile them vertically to gradually reach our highest mountains. Topping all these, and even the highest Alps, the pile would reach the magnificent altitude of 490, or, in round numbers, 500 miles. Calculating that the average man spends five minutes reading his paper in the day, we find that the people of the world altogether annually occupy time equivalent to 100,000 years reading the papers.

THE French Department of Public Works have collected returns of the railway systems in Europe at the end of 1895, which are classified as to length of line by countries as follows: Germany occupies the first place with 29,032 miles; France comes second with 25,130 miles; Russia third with 22,225 miles, and Great Britain fourth with 21,025 miles. The other countries come in this order, namely: Austria-Hungary, 19,312; Italy, 9,410; Spain, 7,533; Sweden, 6,097; Belgium, 3,838, and Switzerland, 2,208 miles of track.

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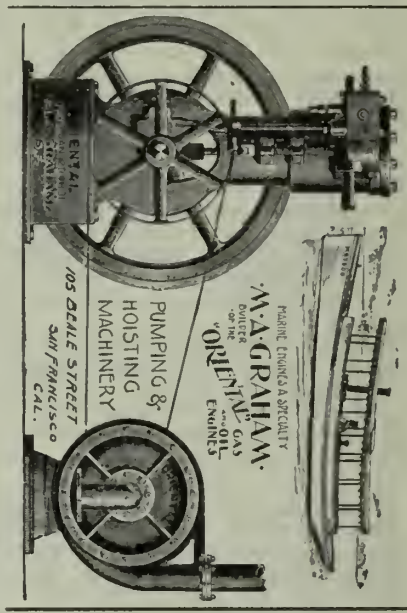

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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Nov. 18, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	85,250	2,512,157	1,796,352
Wheat, ctls	386,636	5,865,366	3,137,324
Barley, ctls	59,585	3,143,097	1,690,200
Oats, ctls	19,875	265,685	307,082
Corn, ctls	7,745	64,755	60,366
Rye, ctls	40,528	106,831	14,862
Beans, sks	30,321	351,982	297,184
Potatoes, sks	20,549	430,619	422,284
Onions, sks	1,882	66,853	56,244
Hay, tons	1,786	70,694	69,233
Wool, bales	2,062	29,111	36,520
Hops, bales	577	5,635	7,601

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	43,808	1,976,104	1,253,699
Wheat, ctls	292,763	5,491,312	4,066,145
Barley, ctls	6,185	2,351,948	1,154,012
Oats, ctls	388	11,457	9,213
Corn, ctls	146	4,855	7,759
Beans, sks	14,037	165,305	96,003
Hay, bales	480	20,227	18,592
Wool, lbs	....	3,488,112	6,219,200
Hops, lbs	34,174	397,454	590,495
Honey, cases	9	1,222	4,833
Potatoes, pkgs	1,463	34,260	55,267

Grain Freights and Charters.

The market for grain charters has been going from bad to worse, with wheat in this center in the ascendancy, and the port well supplied with tonnage, engaged and disengaged. Besides, there is a fair amount of shipping headed this way, more than is likely to be required during the balance of the current season. Ships coming in under charter and arriving on time are in luck, for they could not secure anything near the same figures were they to seek engagement at this date. A tramp steamer arrived just in time to save her charter, having been engaged at £1 10s to St. Vincent for orders. On her arrival she could not have secured over £1 2s 6d on same charter, making a difference of about $7000 on the freight rate of the vessel in question. Subsequently the charterer abandoned her, owing to the ship being compelled to go on the dry dock. Iron ships are not quotable over £1 to Cork for orders, usual option. One was rechartered at 18s 9d. A vessel was secured for Sydney direct at 17s.

Charters.

British ship Crown of Germany, 2154 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 6s 3d.

French bark Reine Blanche, 1471 tons, wheat to Cork, U. K., Havre, Antwerp or Dunkirk, £1 7s 6d; direct port, £1 6s 3d.

British bark Laurelbank, 2237 tons, wheat to Cork, U. K., Havre, Antwerp or Dunkirk, £1 7s 9d, net—chartered prior to arrival.

British bark Inverneill, 1340 tons, wheat to Cork, U. K., Havre, Antwerp or Dunkirk, £1 8s 9d, net—chartered prior to arrival.

British ship Glenfinart, 1802 tons, wheat to Cork, U. K., Havre, Antwerp or Dunkirk, £1 7s 6d; direct port, £1 6s 3d—chartered prior to arrival.

French bark Pierre Corneille, 1125 tons, wheat to Cork, U. K., Havre, Antwerp or Dunkirk, £1 10s, net—chartered prior to arrival.

British bark Indian Empire, 1515 tons, wheat, flour or barley to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d; direct port, £1 4s 3d—chartered prior to arrival.

British steamer Lennox, 2361 tons, wheat to St. Vincent for orders, £1 10s—chartered prior to arrival.

British ship Glencona, 2489 tons, wheat to U. K., Havre, Antwerp or Dunkirk, 18s 9d; direct port, 18s 1½d.

British ship Alcinous, 1576 tons, wheat to Sydney, 17s.

British steamer Ettrickdale, 2468 tons, wheat to Sydney Heads for orders, to discharge at two ports; £1 2s 6d.

British ship Adelana, 2895 tons, wheat to Sydney; 18s.

British ship Pendragon Castle, 2399 tons, wheat to Sydney; 19s.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive.
1896	90,908	66,638	203,728
1895	89,589	32,388	241,016

Flour.

It is seldom fluctuations in flour values are so numerous and marked as have been experienced lately. Further advances in quotable rates have been established since last review, and prospects are that values will go still higher before the close of the cereal year. Stocks in this center are not heavy, and holders show no inclination whatever to press offerings to sale.

Superfine, lower grades	$3 00@3 25
Superfine, good to choice	3 30@3 50
Country grades, extras	4 25@4 50
Choice and extra choice	4 50@4 75
Fancy brands, jobbing	4 75@5 00
Oregon, Bakers' extra	4 25@4 50
Walla Walla, Bakers' extra	4 25@4 50

Wheat.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	5s 3½d@5s 4½d.	7s 7d@7s 8d.
Freight rates,	26¼@27½s.	17½@20s.
Local market,	$0.95@97½	$1.55@1.60

The prices above are for spot lots of standard No. 1 California in Liverpool, and for good to choice shipping in this city.

It is said the unexpected most always happens. This has certainly been a truism during the past few seasons concerning the wheat market. If five years ago any one had made the prediction that wheat would sell in San Francisco for 85c and less per cental, he would have been regarded as unfit to pass judgment upon anything. On the other hand, if a year ago any one would have asserted that wheat at this date would be commanding over $1.50 per cental in this market, his assertion would have been treated with about as much consideration as the tin horn hootings of a Tar Flat hoodlum. But experience proves facts to be stranger than fiction. Shippers were more anxious this week to buy No. 1 wheat at an advance on $1.50 per cental than they were to operate at less than $1 per cental last July. There are some quite confident that wheat will sell considerably above present prices before the close of the season. The conditions are certainly favorable for higher figures, with India, Russia and Australia—the principal competitors of the United States—practically out of the market for the time being. With similar conditions prior to 1890, wheat at present prices would have been considered low. However much higher wheat may go the current season, there is little probability that the United States will long remain without noteworthy competition in furnishing the importing countries of Europe with breadstuffs. It would be likely better for the producing interest to have values keep within conservative bounds, say within $1.30@1.50, than to ascend to much higher figures, for high prices are likely to be followed by a heavy increase in the acreage devoted to this cereal, and with a favorable season in the leading wheat countries there would soon be another glut and prices would rapidly recede to unprofitable levels, the natural tendency being to go as far too low as they had previously been temporarily too high. The speculative market Monday was active and higher, advancing beyond any previous figures of the current season, and values were relatively stronger here than in Eastern or foreign centers. Tuesday there was a sharp decline in the prices of options, but most of this was recovered Wednesday, with firmer markets East and in Europe. The spot market closed strong at quotations.

California Milling	$1 55 @1 60
Cal. No. 1 shipping, alongside	1 55 @1 57½
Oregon Valley	1 50 @1 55
Walla Walla Blue Stem	1 40 @1 57½
Walla Walla Club	1 37½@1 52½

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, $1.53⅜@1.59⅞.

May, 1897, delivery, $1.55⅞@1.66.

Wednesday, at regular noon session of Call Board, December wheat sold at $1.57¼@1.57¾; May, $1.62½@1.63⅞.

Barley.

A ship clearing the past week for London took as part cargo 4540 tons barley, valued at $98,200, the greater portion of the shipment being Chevalier. There is no evidence of much barley of any sort being purchased on foreign account at present. Offerings have not been particularly heavy, however, especially of desirable grades, and the range of values, while showing a slight downward tendency, was in the main no more favorable to the buying or consuming interest than for some weeks preceding. Options averaged slightly lower than for previous week.

Feed, No. 1 to choice	85 @87½
Feed, fair to good	82½@85
Brewing, No. 1 to choice	90 @95
Chevalier, No. 1 to choice	1 05@1 15
Chevalier, No. 2	82½@90

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, 86¼@88c; May, 1897, delivery, 92⅜@96½c.

Wednesday at regular noon session of the Call Board, December feed sold at 87c; May feed at 93¼@93⅝c.

Oats.

The generally healthy tone noted in last review has continued to be experienced, with prospects of the market remaining rather favorable to sellers for some months to come. Most of the supplies lately have been from Washington and Utah. Offerings at present include scarcely any Surprise or Gray oats, and values for these descriptions are in consequence largely nominal.

White Oats, fancy feed	1 27½@1 32½
White, good to choice	1 17½@1 25
White, poor to fair	1 05 @1 15
Gray, common to choice	1 15 @1 25
Milling	1 22½@1 32½
Surprise, good to choice	1 30 @1 40
Black Russian	1 15 @1 30
Red	1 05 @1 20

Corn.

Business in this cereal is not extensive, being mostly on local account. Large White receives little attention, although there is no great quantity offering. Large Yellow has been in moderate request at figures close to those last noted. Small Round Yellow is in very good demand at tolerably firm figures, mainly for chicken feed, owing to the higher prices for wheat.

Large White, good to choice	85 @ 90
Large Yellow	85 @ 87½
Small Yellow	1 05 @1 10

Rye.

This market is not showing much activity, but with very limited offerings prices are being quite well sustained.

Good to choice, new	1 07½@1 12½

Buckwheat.

Small quantities are coming forward. Desirable qualities are meeting with fair custom at full current rates.

Good to choice	1 20 @1 25
Silverskin	1 25 @1 30

Beans.

The following resume of the bean market on the Atlantic side is from a New York circular of recent date. Prices quoted herewith are per bushel of 60 pounds:

Receipts of State beans have run considerably larger this week, and with 25,816 bags from California the market has been too liberally supplied for the demand, which has caused slight weakness in some varieties toward the close. The fact is that home jobbers are buying in a slow, conservative way, and the recent advance, of say 50 per cent, has had a marked effect upon the export trade, which is not giving the market the support that was looked for. These conditions may be temporary, but it should be borne in mind that while Europe is short of beans, and the crop of this State and Canada is somewhat below that of last year, qute a good deal of old stock was carried over, and the California crop seems to be of immense proportions. There is, therefore, reason for conservative views as to values, until much more of the stock has been moved, or the extent of the export demand can be better known. Sales of choice new Marrow have been mainly at $1.60, but the market is dull and there is some shading at the close. Best old are fairly steady; in point of size and color they are better than new and the difference in price will not hold much longer. The demand for Medium and Pea is affected largely by the free offerings of California stock, which is selling at a much less price. Only a few new Medium here as yet, and they job at $1.35 generally. Pea go at $1.25 for both new and old. Orders for Red Kidney were light and the business of the week was at $1.50 for old and $1.57½@1.60 for new. White Kidney have been sold up quite closely, mainly at $1.60 f. o. b. A few Turtle Soup would sell well if here. Yellow Eye in small supply and rather firm. California Lady Washington offering freely at $1.20 for best quality. Lima plenty and slow; good size lots can be bought at $1 45. Green peas steady but moving slowly.

A ship clearing this week for London carried 600 tons or about 17,000 sacks of beans. The shipments of beans from this port direct to Europe have this season been the largest on record. Business the current week has not been active on local account, but arrivals and offerings were not very large, and values were maintained at about the same range as last quoted; still, if much selling pressure had been exerted, prices for most descriptions would have declined. Firmness was more pronounced on Red Kidneys, Bayos and Large Butters than on most other kinds, the above sorts being in rather limited stock.

Pea, fair to good, 100 lbs	$1 40 @1 50
Small White, good to choice	1 30 @1 40
Lady Washington	1 20 @1 30
Butter, small	1 10 @1 25
Butter, large	1 40 @1 60
Pinks	1 00 @1 10
Bayos, good to choice	1 40 @1 60
Reds	1 25 @1 35
Red Kidneys	2 25 @2 50
Limas, good to choice	1 90 @2 10
Black-eye Beans	1 15 @1 30
Horse Beans	1 00 @1 10
Garbanzos, large	2 50 @2 75
Garbanzos, small	1 50 @1 75

Dried Peas.

Little doing in domestic dried peas, either Green or Niles. Buyers are few and are in the main indifferent, the quality of offerings being as a rule under choice. Growers would find it to their advantage to dry their peas thoroughly before sending them in.

Green Peas, California	$1 15 @1 30
Niles Peas	1 10 @1 25

Hay and Straw.

The hay market has not changed materially since last issue, supplies of most kinds keeping fully up to or ahead of requirements. The secretary of the San Francisco Hay Association, under date of Nov. 1st, reports the visible supply in the region tributary to this city, and comments thereon as follows:

The amount, 124,150 tons, is 17,500 tons in excess of the amount I found on hand on the corresponding date of last year. The present consumption of hay in this county is somewhat lighter than it has been during the last few years, as there are not as many head of stock now in the county. From the present demand and stock on hand to figure from, we see no good reason to base any expectations of much advance in hay for the near future, notwithstanding the fact that all other feed and feed products have advanced materially during the past six weeks.

Wheat	8 00@11 00
Wheat and Oat	6 50@10 00
Oat	6 00@ 8 50
Barley	6 00@ 8 00
Clover	5 00@ 7 50
Stock Hay	4 50@ 5 50
Alfalfa, first cutting	4 50@ 5 50
Alfalfa, second cutting	6 00@ 7 00
Compressed	6 00@ 9 50
Straw, ℔ bale	35@ 45

Wool.

The advanced views of holders here, being from 1c to 3c per lb. above the figures current before the election, with no corresponding improvement in Eastern manufacturing centers, have caused the local market to drag. The condition of the manufacturing interest has not been improved other than prospectively, and will not be until there is some legislation tending to restrict the present heavy importations of shoddy woolens from European centers. Even after favorable legislation, direct benefit will not be immediate, as foreign manufacturers are now crowding their goods here in heavy fashion; or, in other words, anticipating a change, they are "making hay while the sun shines," and are working at night time besides. Choice, free Falls are about the only wools salable at present at any appreciable advance on former figures.

SPRING.

Northern California free	— @—
Northern defective	— @—
San Joaquin Foothill, good to choice	— @—
San Joaquin, 12 months	— @—
San Joaquin and Southern, 6 months	— @—
Nevada, as to condition	7 @ 9
Oregon Valley, select	9½@11
Oregon Valley, low grade	8 @ 9½

FALL.

Humboldt and Mendocino	7 @ 9
Northern California free	7 @ 9
Northern defective	5½@ 7
Middle Counties free	6½@ 8
Middle counties defective	5½@ 6½
San Joaquin and Southern	3½@ 5

Hops.

The hop market in New York is thus reported per late mail advices:

During the last half of the week the streets have borne the appearance of some activity in the hop trade. Stock has been coming in pretty freely and dealers have been busy getting it out on orders from local and out-of-town brewers and for export. Perhaps there has not been quite so much new business here as was recorded a week ago, but the activity and firmness at primary points have reflected some strength here. For choice lots of either State or Pacific Coast there is fair call, and 11½c is now an inside price for the former, with the best Pacifics must easier sold than bought at 12c: the latter rate has been bid and refused for numerous lots, and we hear talk of ½c more on especially fine shippers. Grades that come within the classification of good and prime are held at full relative values, but there is comparatively little inquiry for lower qualities. The movement in yearlings and old hops is still very light; both brewers and dealers have a good many of these on hand and do not seem to be inclined to buy more at present. Rather heavy buying is reported in this State, with 10c the ruling price for fine goods; certain favorite growths have drawn higher bids, up to 10½c or even 11c. Practically all of the Pacific Coast crop is out of first hands; most of the stock back is in the hands of good holders. Orders at 10c go unfilled. London cables a firm market with fair business. No further decline in Germany; prices are now about on a parity with other markets.

There is moderately active inquiry both for shipment and on local account. Market is showing a decidedly healthy tone, as compared with its condition for the past year or two. Had there not been a wholesale abandoning of yards, however, present prices would not be obtainable. In the interest of the grower, it is to be hoped that values will continue to improve, as they are still on a low plane, as compared with the average cost of growing, picking, curing and forwarding to market.

Fair to choice, 1896 crop	9 @13

Millstuffs.

A small shipment of bran was made this week per sailing vessel for Liverpool. It would be very agreeable and profitable if we could send all flour and bran to Europe in-

stead of the wheat now forwarded, but foreign buyers will not at present have it that way. Bran and middlings have been ruling slightly firmer. Rolled barley was a trifle easier.

Bran, ₱ ton	12 00@14 00
Middlings	16 00@20 00
Barley, Rolled	18 00@19 00
Cornmeal	20 00@20 50
Cracked Corn	20 50@21 00

Seeds.

Additional shipments of Mustard seed have been made the past week from this center for Europe. Values are steady at the quotations. Market for other seeds is in the main quiet. Alfalfa continues to be offered at figures favorable to the buying interest.

	Per ctl.
Mustard, Yellow	2 00@2 25
Mustard, Trieste Seed	3 00@3 25
Mustard, Wild Brown	2 25@2 50
Flax	1 30@1 40
	Per lb.
Canary	2½@2¾
Rape	2¼@2½
Hemp	3¼@3½
Alfalfa, Utah	6 @6½

Bags and Bagging.

So little doing at present in bags or bagging of any description that market is without noteworthy feature. Values remain nominally as before. Contracting for grain bags for forward delivery will probably be resumed in wholesale fashion in a month or two.

Grain bags, 22x36, spot	4½@—
Wool sacks, 4 lb	28 @—
Wool sacks, 3½ lb	26 @—
Gunnies	9 @—
Bean bags	4 @ 4¼
Fruit sacks, cotton	5½@ 7½

Hides, Pelts and Tallow.

The improved figures last noted in the hide market are still in force, with prospects encouraging for firm prices in the immediate future. Tallow is in fair request at the ruling rates.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	8 @ 8½	7 @ 7½
Medium Steers, 48 to 56 lbs	7 @ 7½	6 @ 6½
Light Steers, under 48 lbs	6 @ 6½	5 @ 5½
Heavy Cow Hides, over 50 lbs.	6 @ 6½	5 @ 5½
Light Cow Hides, under 50 lbs.	6 @ 6½	5 @ 5½
Wet Salted Kip	6 @ 7	5 @ 6
Wet Salted Veal	6 @ 7	5 @ 6
Wet Salted Calf	7 @ 8	6 @ 7
Dry Hides	— @13	— @10
Dry Kip and Veal, 11 to 16 lbs	— @10	— @ 8
Dry Calf, under 4 lbs	— @15	— @10

Horse Hides, large dry	75@ —
Horse Hides, large, wet salted	75@1 00
Horse Hides, medium	50@ —
Horse Hides, small	25@ —
Colts' Hides	25@ —
Pelts, long wool, per skin	50 @60
Pelts, medium, per skin	40 @50
Pelts, short wool, per skin	20 @35
Pelts, shearling, per skin	10 @15
Deer Skins, best summer	20 @25
Deer Skins, good medium	15 @20
Deer Skins, thin winter	7 @ 9
Elk Hides	7½@ 9
Tallow, good quality	3 @—
Tallow, No. 2	2½@—
Goat Skins, perfect	20 @35
Goat Skins, damaged	10 @20
Kid Skins	5 @—

Honey.

White Extracted is not plentiful, and market for same is firm without being appreciably higher. Present supplies are mostly Comb, and only a limited proportion of the same is Water White. Demand for Comb is principally for choice to select and to satisfy local needs. Some Comb of excellent quality has come on market lately from Inyo county.

White Comb, 1-lb frames	10 @—
Amber Comb	7½@ 9
Extracted, White Liquid	5½@ 6
Extracted, Light Amber	4½@ 5
Amber Colored and Candied	3¾@ 4¼
Dark Tule	2¾@ 3

Beeswax.

With a light crop of honey the output of Beeswax this season has been naturally small. Good to choice is readily placed and is bringing, as a rule, tolerably good prices.

Fair to choice, ₱ lb	25 @27½

Live Stock and Meats.

Fat Hogs of medium to large size are being taken by local packers about as fast as received, the market being steady for desirable stock at the prevailing rates. Beef commanded steady figures. In values for Mutton there were no quotable changes to record. Following represent wholesale prices:

Beef, 1st quality, dressed, net ₱ lb	5 @—
Beef, 2d quality	4 @ 4½
Beef, 3d quality	3½@—
Mutton—ewes, 4@5c; wethers	5 @5½
Hogs, hard grain fed, medium size, fat	3¼@ 3⅜
Hogs, large hard	3¼@ 3⅜
Hogs, soft and feeders	— @—
Hogs, country dressed	4 @—
Veal, small, ₱ lb	5 @ 6
Lamb, spring, ₱ lb	5 @ 6

Poultry.

Changes in values were not numerous or pronounced, but where there was any difference observable it was in favor of the producer. Fryers and large broilers in prime condition sold to best advantage. Hens of extra size and in fine flesh brought good figures. Geese which were large and fat were in very fair request. The coming week dressed turkeys will be the leading feature, as is invariably the case Thanksgiving time. Choice to fancy bid fair to sell well, but it is impossible to predict with any degree of accuracy at just what range values will rule.

Turkeys, dressed, per lb	12@ 15
Turkeys, live hens, ₱ lb	12@ 13
Turkeys, live gobblers	12@ 13
Hens, Cal., ₱ doz	4 00@5 00
Roosters, old	4 00@4 50
Roosters, young, (full-grown)	4 00@4 50
Fryers	3 25@3 50
Broilers, large	3 25@3 50
Broilers, small	2 50@3 00
Ducks, young, ₱ doz	3 50@4 50
Ducks, old	3 50@4 00
Geese, ₱ pair	1 50@—
Goslings, ₱ pair	1 50@1 75
Pigeons, Old, ₱ doz	1 00@—
Pigeons, Young	1 50@—

Butter.

While the output of near-by creameries and dairies is on the increase, most of it is lacking, as is customary at the beginning of the season, in the requisites of strictly choice butter, such as solidity, fine flavor, good keeping qualities, etc. For choice to fancy, suited to the most particular trade, the market was tolerably firm. Most of the best butter received at present is from the Humboldt and Del Norte section, and arrivals from that quarter are on the decrease. Market for all defective fresh ruled against sellers, such having to come into competition with packed. Prices for packed descriptions were without material change.

Creamery extras, ₱ lb	25 @—
Creamery firsts	23 @24
Creamery seconds	22 @23
Dairy select	22½@—
Dairy seconds	15 @17
Dairy, soft and weedy	— @—
Mixed store	11 @13
Creamery in tubs	15 @17
Pickled roll	15 @17
Dairy in tubs	14 @16
Firkin, Cal., choice to select	14 @16
Firkin, common to fair	11 @12½

Cheese.

Supplies of all kinds are light, as is customary at this time of year. Especially is new cheese of high-grade in limited stock, and the latter is commanding very fair prices, special marks going at an advance on quotation. Market throughout inclines in favor of sellers.

California fancy flat, new	10 @10½
California, good to choice	9 @10
California, fair to good	8 @ 9
California, "Young Americas"	9½@11

Eggs.

Selected fresh, uniformly large, white and clean, were in light receipt and in good request, bringing fully as good figures as at any previous date this season. Small sales of some very fancy stock were made up to 40c, but this was the exception, the bulk of business in choice and large being within range of 36@38c. Pullets' eggs are now arriving from many quarters. These should be marketed separately, as when mixed with large eggs, they simply injure the sale of the latter. Eastern fresh are in light receipt, being scarce at primary points, but there are liberal stocks of ordinary cold storage, both Eastern and local, and market for these descriptions lacks firmness.

California, select, large white and fresh	37½@39
California, select, irregular color & size	30 @35
California, good to choice store	25 @30
California, common to fair store	20 @24
Oregon, prime	— @—
Eastern, as to section and grading	24 @29
Eastern, seconds	16 @19
Duck eggs	25 @—

Vegetables.

The onion market has continued rather favorable to the selling interest for choice to select qualities, with arrivals at present not very heavy and the demand moderately good. Other vegetables in season and quoted below ruled about as last noted, with the supplies and inquiry both rather light.

Beans, Garden, ₱ lb	3½@ 5
Beans, Lima, ₱ lb	2½@ 3½
Cabbage, choice garden, ₱ 100	50@ 60
Cauliflower, ₱ doz	40@ 50
Cucumbers, Alameda, large box	20@ 35
Egg Plant, ₱ box	25@ 40
Garlic, ₱ lb	1½@ 2
Mushrooms, Buttons, ₱ lb	20@ 25
Mushrooms, Wild, ₱ lb	15@ 20
Okra, Green, ₱ box	40@ 65
Onions, Red, ₱ cental	—@ —
Onions, Yellow, good to choice	35@ 50
Peas, Green, ₱ lb	3@ 4
Peppers, Green Chile, ₱ box	25@ 50
Pepper, Bell, ₱ large box	40@ 50
Squash, Cream, ₱ box	20@ 35
Tomatoes, River, per large box	—@ —
Tomatoes, Bay, ₱ box	25@ 50

Potatoes.

The market has not been quite so heavily stocked with ordinary qualities as for some time preceding, and a somewhat better tone was in consequence experienced, although prices continued at much the same low range as before quoted. Choice to select Burbanks, both from Salinas section and from Oregon, sold to fair advantage, market being moderately firm at ruling rates. Sweets were in decreased receipt and were favored with a little firmer market than earlier in the month.

IN SACKS.

Early Rose, River, ₱ cental	25@ 35
Peerless, River	—@ —
Reds, River	35@ 50
Garnet Chile, Mission	40@ 50
Burbanks, River	20@ 35
Burbanks, Salinas	60@1 07½
Burbanks, Oregon	50@ 85
Sweet Potatoes, Sacramento	75@1 00
Sweet Potatoes, Merced	—@ —

The Fruit Market.

Fresh Fruits.

Market for late summer and early winter fruits, other than citrus, is showing less display, both as to quantity and variety, than at any previous date since the season fairly opened, and there is reason to anticipate still further reductions at an early date of stocks of fruits quoted herewith.

Apples should now be in good supply, but there are not many arriving from any Pacific coast point, and reports from all producing sections on this coast are to the effect that there are few apples to come forward, the crop this season having been a comparative failure. The yield is liberal East, however, and apples are already arriving from that section, the Eastern product selling mainly at $3.50@4 per barrel. Market for desirable qualities of home grown is firm at the quotations.

Pears now offering are mainly Winter Nelis, and the best of these are commanding very good figures, this variety being a favorite with consumers, as it is quite palatable when ripe, and another feature of this pear which is greatly in its favor is that it comes on the market when there is little other fruit.

The grape season is rapidly drawing to a close, but, considering the late date, there is a very fair quantity of this fruit on market. Consumers are taking hold very lightly, however, and it is the exception where prices very encouraging to the producer are obtainable.

Persimmons were not in particularly heavy supply, but receipts were on the increase, with no corresponding increase in the demand, and market lacked firmness.

Pomegranates were in more than ample stock to satisfy all inquiry for the same, and prices continued at a low range. Street hawkers secured some offerings, which is proof positive of the market being against the selling interest.

Strawberries were about the only representative of the domestic berry family now on market, and these were mainly under choice, in a great measure due to the damp and unfavorable weather experienced most of the week. Some Oregon cranberries are offering at $2.50 per box, the equivalent of about $7.50 per barrel.

Apples, fancy, 4-tier, per box	1 00@ 1 25
Apples, good to choice, 50-lb box	75@ 90
Apples, fair to good, 50-lb box	60@
Apples, common, ₱ 50-lb box	35@
Pears, Winter Nelis, per box	50@ 1
Pears, other kinds, ₱ box	40@ 75
Persimmons, ₱ box	50@ 75
Pomegranates, ₱ box	40@ 75
Quinces, ₱ box	—@ —
Nutmeg melons, ₱ box	—@ —
Cantaloupes, per crate	—@ —

Berries.

Blackberries, ₱ chest	—@ —
Currants, Red, ₱ chest	—@ —
Raspberries, ₱ chest	—@ —
Strawberries, Longworth, ₱ chest	—@ —
Strawberries, Large, ₱ chest	4 50@ 6 00
Whortleberries, ₱ lb	—@ —

Grapes.

Black Hamburg, ₱ box	30@ 45
Corniebon, ₱ box	30@ 45
Fontainebleau, Cal., per crate	—@ —
Fontainebleau, Cal., per box	—@ —
Isabella, ₱ crate	—@ —
Muscat, per box	35@ 50
Muscat, ₱ crate	45@ 60
Muscat, ₱ ton	—@ —
Mission, per ton	—@ —
Rose of Peru, ₱ box	35@ 50
Rose of Peru, ₱ crate	45@ 60
Royal Isabella, ₱ crate	—@ —
Seedless Sultana, ₱ box	—@ —
Tokay, ₱ crate	35@ 60
Zinfandel, ₱ ton	—@ —

Dried Fruit.

Late advices by mail furnish the following concerning the dried fruit market in the East:

Evaporated apples have had a light demand, but with more confidence shown by interior holders the market is somewhat firmer here. Contracts for future delivery cannot be made now except at higher figures than makers were recently willing to accept. For spot goods 4c has become an inside figure, and choice range from 4¼@4¾c, though latter is very extreme and only possible for fruit closely approximating fancy. Fancy to extra fancy job from 5@5¼c, but stock has to grade high to exceed 5¼c. Lower grades inclined to drag, and low and irregular in value. Chops are steady and waste firm, though not much doing in either. Few peaches here and value uncertain. Cherries in small supply and hold steady but quiet. Raspberries have held firm at 16c for evaporated, rarely lower for odd lots, but sun-dried dull and irregular. Blackberries steady and occasionally jobbing above outside quotation. Huckleberries weak and lower, though few sales under 6¼c. California fruit in light supply and firm.

Apricots, Cal. Royal, bxs., 1896, per lb	10 @12
Apricots, Cal. Royal, bags, 1896, per lb	9½@11½
Apricots, Cal. Moorpark, 1896, bxs	12 @14
Peaches, Cal., 1896, unpeeled, lb	6 @ 9
Prunes, Cal., 1896, as to size	4 @ 8

The local dried fruit market has relapsed into a very quiet state, no business worthy of detailed mention having been transacted since last review. It is now considered altogether probable that there will be little or no activity until after the holidays. This is a very common experience in the dried fruit trade during the latter part of November and the whole of December. It was hoped this

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year might prove an exception in this regard. After carefully considering the matter, however, there appears to be no good reason why there should be an active market at the close of this year any more than in any former season. The activity experienced during September and October was caused by wholesalers stocking up for the early winter and the holiday trade. The lull now being experienced is doubtless largely due to the fact that the wholesale trade desires, as is invariably the case, to carry as little stock into the new year as possible, owing to the custom of taking inventory and casting a balance sheet about January. There is reason to expect a fairly active spring trade, and that most stocks remaining will find custom at figures as good as those now nominally current. Supplies at present in store are of rather light volume, and it is the exception where they are not steadily held, owners having confidence in the outlock.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	7½@ 8
Apricots, Royal, fancy	9 @10
Apricots, Moorpark	10 @12½
Apples, in boxes	5½@—
Nectarines, White	5 @ 5½
Nectarines, Red	4 @ 5
Peaches, unpeeled, prime to choice	5 @ 6
Peaches, unpeeled, choice to fancy	6 @ 7
Peaches, peeled, in boxes	11 @12½
Pears, peeled and sliced	4 @ 5
Pears, unpeeled Bartletts, halved, fancy	6½@ 7
Pears, halved, unpeeled Bartletts	4 @ 5
Pears, quartered, unpeeled Bartletts	4 @ 5
Plums, pitted	4 @ 5
Prunes, in sacks, 4 sizes	3½@—
Prunes, in sacks, small sizes	2½@—
Prunes, Silver	7½@ 8

COMMON SUN-DRIED.

Apricots, ordinary	5½@ 7
Apples, sliced	2½@ 3
Apples, quartered	3 @ 3¼
Figs, Black	2½@ 3
Figs, White	3 @ 4
Plums, unpitted	1½@ 2

Raisins.

While the market is quiet, it is as firm in tone as previously noted. Offerings are not numerous at this date, and especially are 4-crown loose Muscatel, Sultanas and high-grade raisins in boxes difficult to obtain in wholesale quantity. Quotations for all descriptions remain unchanged, buyers finding it impossible to operate at any lower figures.

FRESNO DELIVERY, F O. B.

Imperial Clusters, per box	3 00@— —
Dehesa Clusters, per box	2 50@— —
Fancy Clusters, per box	1 60@ 1 75
Boxes, London layers, 20-lb box	1 20@ 1 25
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ℔ lb	5¼@5½
Loose Muscatel, 3-crown	4¼@4½
Loose Muscatel, 2-crown	3⅜@3½
Sultanas	5½@5¾
Seedless Muscatel	4 @ —
Dried Grapes	3 @ —

Citrus Fruit.

Oranges of new-crop are now on hand in quotable quantity from both northern and southern California. They are mostly Seedlings, and, as is customary with first shipments, are rather green. Mexican oranges are also on market. Lemons are offering at unchanged figures, with supplies fairly liberal as compared with the demand. Choice lemons, thoroughly cured, are meeting with fair custom, but low grades are neglected.

Oranges—Wash. Navels, ℔ box	4 50@ 5 50
Cal. Mediterranean Sweet	2 50@ 4 00
Cal. Seedlings	— —@— —
Cal. Valencias	— —@— —
Grape Fruit, ℔ case	— —@— —
Lemons—Cal., select, ℔ box	2 50@ 3 00
Cal., good to choice	1 50@ 2 00
Cal., common to good	1 00@ 1 50
Limes—Mexican, ℔ box	4 00@ 5 00
Cal., small box	75@ 1 25

Nuts.

White walnuts have been arriving rather freely from lower coast points and market presents an easier tone. Defective qualities are not readily placed. Almonds in second hands are being quite steadily held, but to place offerings from growers at present, it would be difficult to realize full current rates. Particularly would this be the case where the quality was not A1 in every respect.

California Almonds, paper shell	8 @ 9½
California Almonds, soft shell	6 @ 8
California Almonds, standard	5 @ 6
California Almonds, hard shell	3 @ 4
Walnuts White, paper shell	9 @10
Walnuts White, soft shell	8 @ 9
Walnuts White, Cal., hard shell	6 @ 7
Chestnuts, Cal. Italian	8 @10
Peanuts, Cal., fair to prime	4 @ 5
Peanuts, Eastern hand-picked	5 @ 5½
Pine Nuts	10 @12

Dried Fruits at New York.

NEW YORK, Nov. 14.—Apricots, bags, 9@11c. Peaches, peeled, 13@15c; unpeeled, 7@9c. Prunes, four sizes, nominal, 5⅛@5¼c. Raisins, boxes, two-crown, 4¾c; three-crown, 5¾c; four-crown, 6¾c; London layers, old, $1.20@1.25; new, $1.50@1.55; do clusters, $1.60@2.

NEW YORK, Nov. 17.—Apricots, bags, 9@11c. Peaches, peeled, 13@14c; unpeeled, 7@9c. Prunes, four sizes, 5⅛@5¼c. Raisins, two-crown, L. M., 4¾c; three-crown, 5⅛@5¾c; four-crown, 6¾c; do London layers, new, $1.50@1.55; do clusters, new, $1.60@2.

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Good of the Order.

The good of the Order implies a great deal which is not expressed. It implies that its members believe it to be a good Order and worthy the support and membership of good men and women everywhere. Ours being peculiarly a farmers' Order, it follows that every member believes that every good farmer should belong to it. Holding this belief the responsibility is laid on every member to influence other farmers to unite with us and make the Order strong in numbers, intelligent in purpose and powerful in action. Not until each member of every subordinate Grange in every State of our Union realizes that he is a factor in a great, moving, aggressive army—a spoke in the great wheel that turns the machinery of government—can we measure the possibilities of our organization.

Wise leadership is very important, but loyal, willing followers are equally so. Our energies should be directed to securing a larger membership. We believe that hard and earnest work systematically applied is the only method by which our Order can draw to itself and get the aid and support of all good farmers; and we would recommend that, at as early a date as practicable, every member take a list of all good farmers within the jurisdiction of his Grange who do not belong to the Order, not overlooking the names of any young men or women, and appoint a committee to solicit them to join with us.

The future of the Grange depends upon getting the young people into the Order, and we think it is the duty of Patrons to urge their children to join the Order when arriving at a suitable age. We would recommend as a means of increasing the interest of Grange meetings, that a thorough knowledge and perfect rendering of the unwritten and ritual work should be had, and that all degree work be done in the most impressive manner.

We know of nothing that will add more to the attractions of the Grange than good music, and every Grange should make it a matter of first importance to secure a good Grange choir to lead in the singing. We think every Grange should faithfully observe meetings especially dedicated to Flora, Ceres and Pomona, and on those occasions the most pleasing programmes should be provided and so conducted as to call out every member of the Grange. The anniversary of the Order should also be observed with appropriate meetings.

The good of the Order would be greatly advanced if every Grange could own its own hall. No good Patron will for a moment consider time and money spent in the erection of a Grange Home as wasted. We see no good reason why every Grange county in the State should not have some space in the local papers devoted solely to Grange matters in order to inform the people of our work and achievements.

The prosperity we seek cannot be brought about by sitting with folded hands, waiting for the year of jubilee to come; it can only be accomplished by earnest and devoted work of the members and personal sacrifice on the part of the officers and deputies of the State Grange, assisted by a like devotion on the part of the officers of the subordinate Granges, all striving for the upbuilding of our glorious fraternity.

D. M. WINANS, District Lecturer.
Petaluma, Sonoma Co.

A Sharp Criticism.

Commenting on the refusal of the Executive Committee of the State Grange to provide the Lecturer with a salary, the *Creamery* (a journal published in San Francisco by Mr. Samuel E. Watson, a member of the Order), has this to say:

What right had the fund to accumulate in bank when the lecture field was neglected? The continued existence of the Order depends on putting a good drummer out to talk up its merits, along with newspaper advertising. The services of a good Lecturer would strengthen the Grange wonderfully and more than pay the cost, and such work as the above is neither business-like nor just.

Notes.

Two Rock Grange has appointed Mr. C. Nisson as its official correspondent, and, in a letter to the editor, he promises a series of short articles during the coming year, giving, besides the more important current news of the Grange, a history of its co-operative efforts.

The National Grange has been in session this past week at Washington, but it will be at least another week before we can receive any definite report of its doings. Worthy Master Greer is in attendance and will in due time give through the RURAL PRESS some notes of his observations.

Worthy Master Saunders of San Jose suffered a terrible fall last week, which lacerated the tendons of his leg and incapacitated him for a few days.

San Jose Grange will take a leading part in the Farmers' Institute to be held at San Jose on Saturday, the 28th inst.

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THE large number of torpedo boats now being built for the U. S. Navy brings forth some features in machinery exceptionally interesting and novel. On some boats of this kind recently launched the equipment of steam pumps, as well as the main engines, are run without the use of oil in the steam cylinders. While this is not a new idea, so far as vertical steam engines are concerned, it has never been the practice to run steam pumps without oil. The pumps are arranged without any oil holes whatever, so that it is impossible to get oil into the steam cylinders. These pumps were given an exhaustive test for several days by the manufacturers and they operated with entire satisfaction, and without using a drop of oil. The doing away with the use of oil in the steam cylinders of a vessel is a matter of considerable importance, as there is no necessity of carrying feed-water filters and no anxiety about oil injuring the boilers.—Scientific Machinist.

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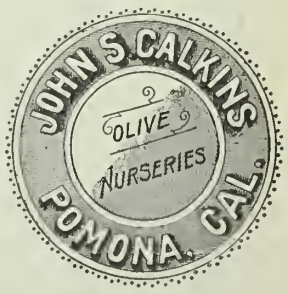

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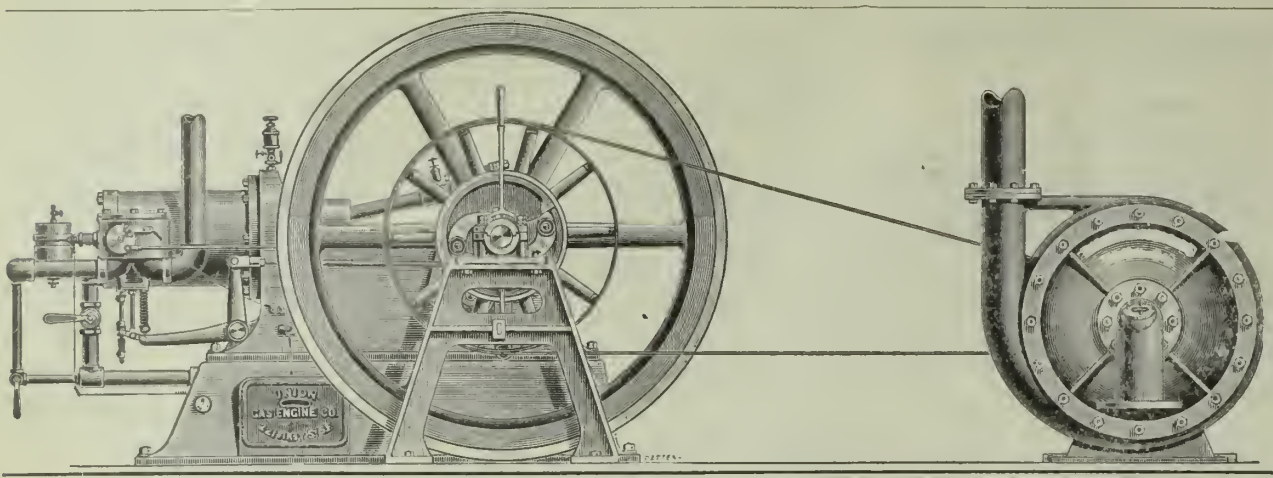

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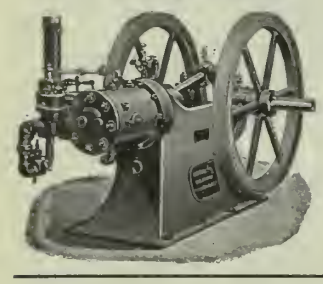

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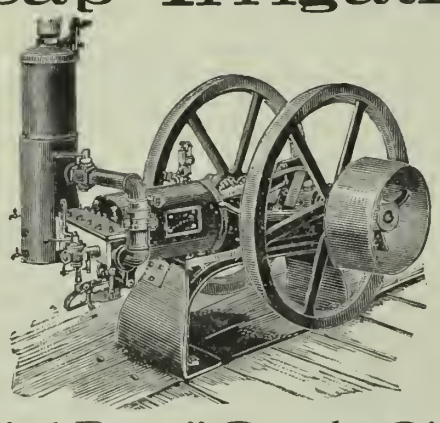

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Notwithstanding what some other makers claim, we guarantee our Engines to work perfectly on California Crude Oil, or Distillate, or any other kind of gaseous Oil; we however prefer CALIFORNIA CRUDE OIL, notwithstanding what some other makers of Gas Engines say to the contrary, for the reason that gas from Crude Oil will produce more power from the number of feet of gas used than from any other Oil, and it is also a natural lubricant as well, the valves being always lubricated sufficiently to prevent them from sticking, thus assuring greater durability of the working parts than it otherwise would be in using dry gas, as is the case with other makes of Gas Engines which are compelled to use dry gas produced from one kind of oil. And another advantage we claim is, that danger from explosions is reduced to a minimum, there being no accumulation of gas, but is used by the Engine as fast as it is generated and hence is absolutely safe. The following is a test that we made with one of our Five-Horse Power Crude Oil Engines, running ten hours on the different gas oils:

California Crude Oil	40 gravity,	7½ gallons	at	7	cts.,	.52½
Distillate	40	" 7½	"	8	"	.60
Domestic Coal Oil	40	" 7½	"	12½	"	.93¾
Gasoline	74	" 8¾	"	15	"	1.31¼
City Gas		1000 feet,				2.00

We will guarantee the above results, and we are prepared to convince any one that our Crude Oil or Distillate Engines can be operated for less money than any other so-called "Distillate" Engine made.

There is an abundance of first-class Crude Oil produced in this State and of the very best quality, and recent discoveries have demonstrated the fact that it contains very little, if any, asphaltum and the Oil is of a rich green color which denotes a paraffine base, notwithstanding what other Gas Engine makers might say to the contrary, whose Engines cannot be operated on Crude Oil. This Crude Oil can be and is purchased at the oil wells at 3 cents per gallon in any desired quantity. We will guarantee that one and a half gallons of this Crude Oil will produce one-horse power running steadily for ten hours (when used in our Engine) and that the residue will not exceed three-fourths of a gallon in ten gallons, and this residue is not a loss but is a fair lubricant and can be used as such on any part of our Engine. We have sold a large number of Engines and a greater part of them are running on Crude Oil, and our customers cannot say enough in their praise.

We manufacture all sizes from two-horse power up, and will guarantee that our Engines will run cheaper and are more simple in construction, have fewer parts and hence are more durable than any other Gas Engines on the market. Seeing is believing; don't take our word for it, but come and investigate for yourselves. You can always see one in operation at our works. We will be pleased to see you and will at all times take pleasure in showing them up. Our Engines are specially adapted for running well and mining machinery—in fact, for any kind of power desired. We are the pioneers and first inventors of Crude Oil and Distillate Engines. **We always lead and never follow.** Send for Catalogue and Price List of the only genuine Crude Oil and Distillate Engine made.

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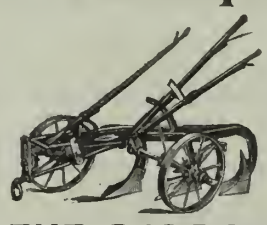

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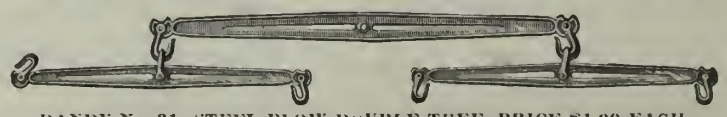

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A Silver-Leafed Eucalypt.

Very striking indeed must be the silver-leafed eucalypt, *E. Sideroxylon*, of which a branch is given in one of the engravings on this page. Abbot Kinney of Lamanda Park in his monograph on the eucalypts describes this species as a great tree for our dry valleys, which is a good point for tree planters to make note of; but the color points of the species are so striking that it should prove very valuable in the hands of landscape architects who have taste to use it well. It has a blue-gray foliage and scarlet flowers and dark, rough, red bark. The tree sometimes reaches an altitude of 200 feet, but is usually of moderate growth. Mr. Kinney says that the gray of the foliage sets off the striking pink flowers. The stems of the leaves are of similar color. Pink is the nearest description of the color, but it is Australian pink. From our limited local experience, writes Mr. Kinney, we are self satisfied enough to term many of the Australian growths fantastic. We might say this also of its flower colors. The *Sideroxylon* flower, for instance, is neither red, scarlet, pink nor magenta, but a sort of a mixture of all these colors. The nearest name for it is that which a nurseryman gave, a "madder pink." The color is brilliant. The bark on nearly all our specimens is hard, persistent and deep iron red. The trees are attractive, indeed handsome.

The other engraving on this page shows the foliage, bloom and fruit of the species *macrorrhynca*, a tree quite like the *obliqua* which is grown to some extent in southern California. As yet it has not made a very satisfactory showing for itself.

EUCALYPTUS MACRORRHYNCHA.

EUCALYPTUS SIDEROXYLON.—VAR. PALLIDA.

The East Indian famine looks a little less grievous because rain has fallen in certain parts of the stricken country. The following is an accurate view of the position of the northwest provinces and Oudh: The first area where there is the greatest failure of crops has 25,000 square miles, with a population of 13,000,000. Here the famine may be acute. The second area where there is severe failure covers 3000 square miles and the population is 13,000,000. The third area where there is considerable failure has 25,000 square miles and a population of 12,000,000. As for the prospects, 1½ inches of rain within the next fortnight would reduce the difficulties by one-half to three-fourths. Favorable rains at the end of the year would relieve from 4 to 8 per cent of the population. The Government is preparing for the worst. Should the drought continue until June the prices would rule enormously high, but the Lieutenant Governor does not apprehend a complete failure of supplies next summer, as local stocks would be supplemented by imports.

Sonoma county will take the initiative in an attempt to work up a market for dried fruit in Australia.

An International Wheat Price.

While it is too wet to work, one may as well talk about one great scheme as another, providing both are equally innocent. Such we conceive to be the character of the story which comes from Washington to the effect that Russia is believed to be making overtures, not only to the United States, but to England, the Argentine Republic and Austria, which are the principal wheat-growing nations of the world, concerning an international wheat price. The idea suggested is that these nations, should they see fit to unite in an agreement on the subject, could fix a price for wheat, to be maintained uniformly through various seasons of overproduction and unsatisfactory crops caused by drought or continual rain, and thus make the principal grain staple, upon which millions of consumers depend for food, almost as unchangeable in value as gold itself has become. This would enable the producer, in the event of an unusually large crop, to store his wheat and obtain thereon a loan that would tide him over until the wheat was in demand in the world's market, when he would receive a full and fair price for it.

This is the food for contemplation which the news agencies give us for wet weather. It may be feasible in the millenium, perhaps; but while mundane affairs are constituted as they are at present, we cannot see either the possibility of any such agreement or of its effectiveness even if it were entered upon.

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Our latest forms go to press Wednesday evening.

Registered at S. F. Postoffice as second-class mail matter.

ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, November 28, 1896.

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The Week.

Weather and Crops.

We have had another rain storm, covering the whole State and dropping water enough in some localities to last for weeks. There is reason, however, to expect that the pace now set will be held all winter and that the year will be one of heavy rainfall and large crops of all kinds.

This is a good theme for Thanksgiving week, and will reconcile our readers to the fact that, going to press one day earlier than usual to give our employees a chance at the turkey, we are without our usual weather table. Fortunately, it does not matter much, for the weather is all right, anyhow—everybody knows that without the figures.

Failure of A. T. Hatch.

There will be general regret among fruit growers to learn that Mr. A. T. Hatch has fallen into financial trouble. He has found himself unable to meet his heavy obligations; and a large creditor—Banker R. D. Robbins of Suisun—has attached the big Solano county ranch to satisfy a claim of about $200,000. The workmen on the place and many others are declared to be heavy losers. Commenting on these facts, the Solano *Republican* says:

The story of Mr. Hatch's financial collapse dates back several years, and consists of a large number of heavy investments he made in orchard property in northern and central California. Long before the Suisun valley orchard came into full bearing, enormous profits were realized from the fruit sold. It is claimed that in a single year he made over $80,000, and became so enthusiastic over these returns that he concluded to extend the scope of his business and invested heavily. As a rule, the property he bought consisted of unimproved land, which he secured by agreeing to improve the the same and keep up the interest up to the time of its bearing. He depended upon the income derived from the Suisun valley orchard to keep up expenses and pay the interest on his other transactions.

Had the high prices for fruit continued, and the country had not been overtaken by hard times, his hopes would have been realized. His speculations were, however, too expensive, one of the most unfortunate being the purchase of a piece of property near Haywards, for which he paid an enormous sum per acre. Mr. Hatch informed the *Republican* representative that he bought this property on the same basis as other land acquired by him, viz: that he was to pay for the improvements, keep up the interest, and in case he was unable to meet the principal when it was due, he would forfeit the title, and the property would revert to the original owners. He afterwards found when the owners had taken action against him, that he had signed his name to an obligation which differed from the above agreement. Not only did he lose what he had invested, but judgment for something over $50,000 was obtained against him. This is the story in brief which prevented Mr. Hatch from further obtaining credit upon his property here, and which is worth much more than the amount named in the suit, viz: $200,000.

The failure of Mr. Hatch has caused bad effects in this vicinity, as many poor people who had labored industriously during the present year to earn low wages, found that the larger claimants against their employer had everything obtainable secured in such a way that their claims were first recognized. The Earl Fruit Company held a crop mortgage of all the fruit, and R. D. Robbins a chattel mortgage of all implements, and thus the unfortunate men have been deprived of their earnings. It is hard on the workingmen who have lost their wages, and who should have been compensated for the labor they performed. They were ignorant of the business arrangements which have been made, and worked the season out with the expectation of receiving the money due them. The deprivation entails a great hardship on those who have others to support. Several merchants in Suisun have also been unable to collect the amount of their bills.

There will be universal sympathy for Mr. Hatch. For many years he has been the largest fruit producer in California—or in the world, for that matter—and he has always been a most progressive and enterprising man. No other individual has, perhaps, done so much in the way of developing new methods of shipping and exploiting new markets. No misfortune can keep him in eclipse for in his energy and experience he has resources of which no casual misfortune can rob him.

Farmers' Institute at San Jose.

The Farmers' Institute to be held in San Jose on Saturday of this week will be divided into three sessions. The first will open at 9:30 o'clock in the morning, the second at 1:30 in the afternoon, and the third at 7:30 o'clock in the evening. Specially prepared papers upon important subjects to the farmers will be read at each of these sessions by able students of the topics under discussion. These papers will be followed by a general discussion of the points brought out in them. Several of the professors from the University of California will be present and participate in the exercises.

The President's Turkey.

A Stonington (Conn.) dispatch of Monday says:

Horace Vose, the famous turkey buyer of southeastern New England, who annually provides the White House table with its plump Thanksgiving Day turkey, has selected one for President Cleveland and will send it to Washington early in the week. Mr. Vose has the run of all this quarter of Yankeeland in his yearly fall trips, buying poultry on foot from the farmers of a dozen country towns. The turkey for the President is the fattest, sleekest, plumpest and handsomest bird Mr. Vose has found in his travels. Its weight is thirty pounds. It is by no means the biggest one to be had, for the peerless bronze turkeys in this incomparable turkey land not rarely attain the weight of thirty-five to forty-eight pounds, but Mr. Vose contends that a fowl weighing from thirty to thirty-eight pounds is the juiciest and tenderest and of the most delicious flavor. Consequently his annual contribution to the White House Thanksgiving is a young bronze turkey of about medium weight. A few years ago he shipped one of this kind to Queen Victoria, in accordance with the special request of her official representative in this country. In one or two instances, moreover, acting in response to their special orders, he has procured Thanksgiving turkeys, raised among the North Stonington or Rhode Island hills, for American ministers and consuls abroad. In fact, it was due to transactions of this kind that the southern New England bird has gained prestige in some quarters of Great Britain. Mr. Vose began his practice of supplying the President with a Thanksgiving turkey nearly a quarter of a century ago, and for a number of years the late Senator Anthony of Rhode Island sent the gift in person. In the political campaign just ended Mr. Vose was an enthusiastic and active supporter of Major McKinley, and, although his best turkey is to go to the President, as usual, he has selected one almost as good that is to be shipped to the President-elect at Canton.

Pith of the Week's News.

THE Fair heirs have compromised with Mrs. Craven by paying her $500,000.

A HEAVY snowstorm is reported on the 23rd at Yreka—the earliest in the history of the country.

JOHN WANAMAKER has announced his candidacy for the United States Senate to succeed Senator Cameron.

THE collier, San Benito, was wrecked on Sunday just above Point Arena and twelve of the crew were drowned.

FRANK L. COOMBS of Napa is a candidate for the Speakership of the Assembly, and will go to Sacramento strongly supported.

JOHN L. SULLIVAN, the prize fighter, who developed cancer in the hand some weeks ago, has received no benefit from mild measures and his right hand is to be amputated.

THE latest political gossip is to the effect than John Sherman will go into McKinley's Cabinet and that Mark Hanna will succeed him as Senator from Ohio. These reports are not to be taken without salt.

THE story that Cleveland and Carlisle are to establish themselves in law practice in New York is denied, and the latest rumor is to the effect that President Cleveland will go abroad immediately after his term expires.

THE great pacing horse, John R. Gentry, has been sold to Lewis W. Tewksberry for $19,900. The same horse was sold last year for $7600. His record is 2:01½, a second faster than any other horse ever made a mile in harness.

CONGRESS will meet next week, and it is predicted that its whole attention will be taken up by routine matters. Mr. Dingley of Maine will make an attempt to put through his emergency tariff bill, as introduced last session, but he says he has little hope of success.

THE amendment to the State Constitution exempting mortgages from taxation was overwhelmingly beaten at the late election, as also was the amendment limiting the liability of stockholders in corporations to the face value of their stock. The amendment authorizing the use of "voting machines" was adopted.

WEYLER'S campaigin against Maceo, the Cuban leader, has accomplished nothing and the general is again in Havana. It is not officially announced, but there is small doubt that Weyler has been recalled to Spain and that General Prando will be his successor. Thus far Cuba has proven the grave of military fame. He is a bold man who dares undertake the job of putting down the rebels.

DURING the past fiscal year the National Government has been obliged to redeem about $8,000,000 worth of bonds of the Pacific railroads. In the current year the demands upon the Treasury on the same account will be about $9,000,000, and in the next year following about $30,000,000. It is said that this matter will form a leading subject in the forthcoming message of President Cleveland.

THIS is a great week at Blenheim House, in England, where the young Duke of Marlborough and his American wife are entertaining the Prince of Wales. The great house has been refurnished and the fete is on a scale which, it is said, will cost not less than half a million dollars. Americans have a right to be interested, for it is American money that foots the bill. Incidents of this kind help to make socialists in this country.

JACOB SHESLER and wife of San Jose, parents of Miss Minnie Shesler who was murdered with the McGlincy family last May, have brought suit against murderer Dunham for $25,000 worth of damages. Service upon the defendant will be made by publication. Dunham left property in and about San Jose city said to be worth about $10,000, and upon this the Sheslers hope to levy. Their daughter was their sole support.

HOWEVER much sympathy Americans may feel for the Armenians, they will not approve the effort making by Miss Willard and other well-meaning women to bring them in large numbers to this country. We have already quite enough population of an anomalous sort. The duty of Christendom is not to transport the Armenians into other countries, but to compel the Turk to allow them to live peacefully in their own country. It is a case for justice—not for sentiment.

A GREAT scandal has been brought to light in connection with the Italian Government. Examination of the account books of the Ministry show an expenditure of $7,000,000 in ten years for pins. The office of the Minister of Agriculture claims to have expended $200,000 during the past ten years for carpets; $750 is credited for a few brass studs to ornament a ministerial bookcase; and so throughout the whole Department of State there appears to have been a series of the grossest frauds. The story reads like a chapter out of the Tweed exposure.

THE Midwinter Museum in Golden Gate Park in San Francisco was formally opened to the public on Saturday last. It contains, besides many other objects of curiosity, a room devoted to Oriental life, another to colonial history, another to Indian relics, and another to Napoleonic relics. The Napoleonic and colonial relics are interesting enough, but their propriety in connection with California is questionable. It would have been very much more rational to have spent the vast sum which these collections have cost in a way commemorative of the history of our own State.

THE storms of the past two weeks have been very severe in the region of western Oregon and Washington. Especially in the forests east of Puget Sound the floods have been unprecedented. Railroad bridges have been washed away, and the damage to the river towns and to the lowland ranches has been unexampled in the history of the country. The loss to the Great Northern and the Northern Pacific systems in Western Washington will be not less than $2,000,000. Throughout the Sound country, as far south as Portland, a heavy snow storm raged for two days at the beginning of the week.

THE effort in behalf of Worden, the convicted train wrecker, is of a very extraordinary kind. In addition to an application for the commutation of his sentence, very generally signed in this State, Governor Budd has received a letter asking for clemency from Mr. C. P. Huntington; also a letter from President Cleveland. In the President's letter there is the hint of a romance. "Many years ago," he says, "the mother of this man and I were young people together, and we were very dear friends." It is believed that the friendship must have been very close indeed to have induced the President to personally appeal to the Governor. The basis of these several appeals is the assumed mental irresponsibility of the convicted man; and his condition is to be made the subject of expert inquiry. Governor Budd declared last week that if it should be demonstrated that Worden was sane at the time his crime was done the law should take its course, no matter who might appeal in his behalf.

ALL California has been talking this past week about a mysterious air-ship which, it is alleged, has been seen at Sacramento, San Francisco, Oakland, Marin county, San Jose and elsewhere. Its first appearance was noted at Sacramento Tuesday night of last week, when it was seen hovering over the city, casting its searchlight about from an elevated position. No less than a score of reputable people assert that they saw it distinctly, and at least two men, supposed to be truthful, are able to describe its appearance. One heard its occupants singing in chorus, and another heard its captain give direction to steer away from a church steeple. In spite of this specific testimony, most people believe the air-ship to be a hoax, though its existence is claimed to be a fact by a very creditable witness, namely, Mr. George B. Collins, whose office is in the Crocker Building, San Francisco. According to Mr. Collins' story the inventor is an Eastern man of wealth, and his ship, which is about 150 feet long, was built in a retired forest place near Oroville. He is, he says, the attorney for the inventor, and he asserts positively that the ship sailed last week from Oroville to this city, passing over Sacramento, and that it has made nightly voyages in the region round about San Francisco since that time. It is now near Oakland carefully guarded and will soon be sailed in broad daylight over San Francisco, and will hover in sight of everybody over the most thickly populated part of the city. All this makes an interesting story, but we suspect for all of the evidence that the air-ship is a phantom and the story a hoax.

Gleanings.

THE stock sale at the Chino ranch last week was a notable success. Work horses went at from $60 to $80 according to condition.

ALMOND growers are urged to attend the convention to be held on Dec. 1st at Sacramento to take steps toward securing tariff protection.

SEVENTEEN carloads of English walnuts, worth $30,000, were shipped last week from Aliso station, near Tustin, and there remain three carloads more for export.

POMONA has received a carload of Eastern apples. The importers would do well to send the car back for a load of Paris green with which to fight the codlin moth which undoubtedly came with the apples.

ALLEN BROS. & CO. of San Bernardino have shipped to President-elect McKinley the first box of navel oranges produced this year in San Bernardino county. The fruit was grown in Mr. S. F. Zombros' orchard in Highland.

THE Thanksgiving trading in fruit in the Eastern markets has been exceptionally heavy and prices have been well maintained. Grapes—the last of the California season—have been bringing $3@4 per double-crate of 40 pounds.

THE Lima Bean Association of California is in first-class shape and is ready to do business. There is a membership of over sixty growers. The association will practically control the entire product of Lima beans. The principal place of business will be at Montalvo.

REDLANDS *Citrograph*: Olive buyers are paying $100 per ton. Not many will sell at that figure but do the curing themselves. The crop is light this year, generally speaking, but the total output will probably be greater than last year, on account of the young orchards just coming into bearing.

THE best bunch of hogs shipped this season from Tulare consists of a lot of eighty mixed Berkshires and Poland Chinas, averaging 258 pounds. These hogs were fed upon refuse fruit, afterwards turned upon stubble and then allowed to pick up the leavings where Egyptian corn had been raised, and were

fed from the sack but for one week. P. J. S. Montgomery was the raiser.

THE Woodland Co-operative Creamery has paid all its debts and now stands clear of incumbrance with a small surplus on hand. Formerly patrons were charged 5 per cent on churn tests by way of deferring expense: but hereafter the churn test will be free. Another change in the rules will charge stockholders 4 cents per pound for the manufacture of butter, while patrons not stockholders will be charged 4½ cents per pound.

SOME uneasiness has been felt in the Pajaro valley about some of the red spots which have been common on some of the Bellefleur stock. Packers claim that the spots appear only on apples which were on the trees and exposed to the first rain; that the sun blistered them slightly, and that the spots are not caused by an insect. The glass does not reveal any insects on these apples, and the spots do not extend through the skin. They do not affect the quality of the fruit, but mar its appearance.

SONOMA *Index-Tribune*: "There is growing on the Otto Rufus place, in the eastern suburbs of town, a Mission grape vine which produced last season nearly half a ton of grapes. The vine was raised from a cutting obtained from General Sutter forty years ago. It was planted by Major Rufus, and during all these years, notwithstanding the ravages made upon the other vines on the place by the phylloxera, it has resisted the attack of the insect and is now as healthy and vigorous as ever. The vine is now 2½ feet in circumference and is still growing."

HANFORD *Journal*: A bashful horticulturist, whose farm is five miles west of this city, and who did not want his name given, is quite proud and pleased at the return from his vineyard this year. He has harvested twelve tons of raisins off of eight acres and sold his crop at 3.35c a pound. This means a gross return to him of a little over $800, or over $100 per acre. He has still about a third of the crop of grapes on the vines and these he will fatten hogs on. Who said there was no money in the raisin business? This man struggled along for several years, turning everything to account to make his farm pay while raisins sold for a low price, and now he is receiving the reward of high prices and a nice fat little income.

THE red scale has made its appearance at Ontario, and one orchard at least is said to be badly affected. The scale appeared in a lemon orchard and is believed to have been introduced by the use of second-hand fruit boxes. The Horticultural Commissioners have set to work and hope to thoroughly stamp out the pest. Commissioner Pease says it would be much easier to handle the difficulties with which the commission has to work if the scale should be reported as soon as it makes its appearance; but the policy of orchardists is frequently to conceal the fact, as if it were something to be suppressed, and then when it finally comes to the commission, as it ultimately must do, the work of extermination is more difficult, and the scale has had so much more time in which to spread.

GILROY *Advocate*: "Among contracts made by the Spreckels Sugar Company at Watsonville with producers on this side of the range is one with Henry Miller for the product of 600 acres. The tract of land south of the San Benito river belonging to Mr. Miller will be cultivated for a beet crop next season. It is found that the land of this southern part of Santa Clara county and the country about San Juan produces as much as eighteen and twenty tons of beets to the acre, and that they contain more than the average percentage of sugar. Contracts are limited this year. The limited capacity of the mill at Watsonville will not cover the acreage now available, but as soon as the sugarie at Salinas is completed the company will be ready to contract for a more extended beet area and the country about Gilroy will then be in demand."

The Brewers and Hop Substitutes.

In the crop report for October, 1896, the United States Department of Agriculture attributed the languishing condition of the hop market to the general use of chemicals as substitutes for hops in brewing.

The United States Brewers' Association, in a letter to Secretary Morton, protested against this assertion, denounced it as absolutely false and offered to assist in the prosecution of any person guilty of adulteration. In reply the association received the following from Secretary Morton:

The statement in the October crop report to which you call attention was submitted to the statistician, and he informs me that while the analysis of the department chemist shows that the use of other bitters than hops has not been unknown in the past history of brewing in the United States, still the statement is undoubtedly erroneous, as the use of the substitute appears to be rare, rather than otherwise.

Mr. Morton might have added that it was very stupid of his assistant to charge the brewers with using "substitutes" while hops are cheap. He ought to have made the charge when hops are high.

RURAL readers in the grape interest should apply to Prof. E. W. Hilgard, State University, Berkeley, for a copy of a 500-page report which has just been issued concerning wine grape varieties, vinification and other kindred subjects. The experiments in growing and testing the fruit and the wine of the different varieties named have been in progress several years and the results are of great value in indicating the adaptation of certain varieties to soils and local climates. The report will be sent free to those who write for it.

ALTHOUGH most wheat growers disposed of their wheat too soon to be benefited by the fall rise, the general state of mind on the wheat crop has been affected notably. H. M. La Rue of Sacramento recently said in an interview: "I think wheat has gone up to stay at a good figure, and for this reason I believe an increased acreage will be sown in wheat in California. I already know of farmers who want to rent land for this purpose. It is too early yet to say just what the additional acreage will be."

FRUIT GROWERS should not forget the convention in Sacramento next week as fully described in our recent issues. It will be a good chance to look the situation right in the face and see what can be made out of it. There is really more promise in it than some are disposed to think. Be in Sacramento on Tuesday next and stay four days.

Report of the Secretary of Agriculture.

The annual report of the Secretary of Agriculture has just been filed at Washington and the following summary comes by telegraph:

The inspection of animals intended for food is treated of at length, and stress is laid upon the increased efficiency of the work due to the extension of civil service rules, which has been rapid in this service. The total number of ante-mortem inspections of cattle, sheep, calves and hogs during the year was 35,917,479, an increase over the previous year of over 50 per cent. The total number of post mortem inspections was 23,164,858, an increase of 25 per cent. The total number of abattoirs under inspection in 1896 was 102 in twenty-six cities. In 1892 there were but twenty-eight in twelve cities. For the sake of economy, the exports of microscopically-inspected pork to countries not exacting such inspection have been greatly discouraged. The total amount thus inspected was in round numbers 23,000,000 pounds, of which 21,500,000 pounds went to countries requiring inspection. Clearances were issued to 891 vessels carrying cattle and sheep. Of cattle there were tagged for export 337,369, and 422,603 inspected sheep were exported. The percentage of loss in transit was considerably less than ever before.

Mr. Morton urges strongly that Government inspection should be extended to all animals intended for human food, whether for consumption in the United States or abroad.

The cattle and meat trade of Great Britain is reviewed at length. Of live meat arriving in the United Kingdom during the first six months of 1896, the United States supplied 75 per cent of the cattle and 45 per cent of the sheep. The testimony of the department representatives abroad is that cattle from the United States arrive in English ports in excellent condition. The Glasgow market is especially commended to American shippers.

The report shows a steadily increasing demand in England for American horses. During the first nine months of the present year more of these animals were shipped to that country than for any previous entire year.

Reviewing the work of the Weather Bureau, special stress is laid upon the value of the many timely storm warnings which have been issued by the bureau and have resulted in the protection from loss or damage of many millions of dollars worth of property, to say nothing of lives saved from impending dangers. An increase in the percentage of verifications is noted.

During the year the department issued 376 publications, mainly for gratuitous distribution. The aggregate number of copies printed was 6,561,700. The publication work has grown enormously during the past few years, and increased appropriations must be provided, but the Secretary declares that neither the Department of Agriculture nor the Government itself can continue for the next five years to increase its publications for gratuitous distribution in the same ratio as for the last five years without disbursing millions of dollars. He protests against the intrusion in the act of appropriation for the department for the current fiscal year of $82,500 for reprinting horse books and cattle books to be given away by Congress.

The Secretary again takes occasion to express his opposition to the gratuitous distribution of seeds, and to express the hope that the practice will be discontinued.

The work of the experiment stations is reviewed at some length. He opposes for the present the establishment of an agricultural experiment station in Alaska, but recommends an appropriation of $5000 for a preliminary investigation of the agricultural resources of the Territory.

The Secretary suggests some form of co-operation between the agricultural colleges and the Civil Service Commission, with a view to certifying more readily persons adapted for employment in the scientific divisions of the department.

The report concludes with a comprehensive report of the review of the condition of American farmers. Seventy-two per cent of the farms in the United States occupied by their owners are absolutely free from mortgages or other incumbrances. The Secretary refutes the idea prevailing that the farms of the West and South are more heavily burdend with mortgages than those of the East and Northeast. The States along the North Atlantic, he says, are quite heavily incumbered with farm mortgages, and New Jersey carries a debt of this kind greater in proportion to its farm valuation than any State in the Union. The frequent claim that the farmers are almost universally in debt, despondent and suffering, he declares to be without any foundation, a belittlement of agriculture and an indignity to every intelligent and practical farmer. "The farmers are not mendicants," he says, "nor wards of the Government to be treated to annuities, but the representatives of the oldest, most honorable, most essential occupations of the human race, upon which all other vocations depend for subsistence and prosperity.

"Legislation," he says, "can neither plow or plant. The intelligent, practical and successful farmer needs no aid from the Government. The ignorant, impractical and indolent farmer deserves none. It is not the business of the Government to legislate in behalf of any class of citizens because they are engaged in any specific calling, no matter how essential the calling may be to the needs and comforts of civilization. Lawmakers cannot erase the natural laws nor restrict or efface the operation of economic laws. It is a beneficent arrangement of the order of things and the conditions of human life that legislators are not permitted to repeal, amend or revise the laws of production and distribution."

Referring to the stress of competition which the American farmer is compelled to endure, Mr. Morton calls attention to the nearly two millions of farms of eighty acres each given away by the Government under the homestead act during the past thirty years, and to the amount donated under the timber culture law, equivalent to over 550,000 more farms of the same size. Lands long tilled and rendered partially unfertile could not, of course, enhance in value and sell in competition with virgin soil donated by the Government. No legislation relative to the public domain has been so directly inimical to the farmers who had bought and paid for the lands upon which they had lived and labored. It was impossible for the farmers in the old States to profitably sell their products in competition with those of the newer States, grown upon lands which cost their owners nothing. Referring to the impression that greater rates of interest are charged for money loaned upon farms than for that loaned upon other kinds of real estate, Secretary Morton states that the rate of interest charged upon residential property other than farms averages eighty-four hundredths of 1 per cent less than the rate of interest charged upon farm loans.

During the fiscal year just ended the exported products of American farms aggregated $570,000,000, an increase of $17,000,000 over the preceding year. In spite of this there is a falling off in the percentage of agricultural products exported to the total exports, but this was due to the unprecedented sale abroad of American manufactured goods.

"The largest market for our products," he says, "is admitted to be the home market, but the export trade is the regulator, the balance wheel for domestic trade. It follows that the interest of the manufacturer as well as the farmer is found in the most rapid possible increase of the export of farm products. General prosperity depends absolutely upon agricultural prosperity, and any commercial system which will increase with celerity and extend the exports of our farm products will be of the utmost help to agriculturists. That political economy which best advances the interest of the agriculturist furnishes the best impetus to the manufacturer of the United States, for his customers are farmers and those who depend directly for profit upon the prosperity of farms."

"It is," he concludes, "probably quite safe to declare that at least 2,000,000 workmen on farms and in factories subsist almost wholly upon employment based upon foreign demand for American commodities. And in this contest for feeding and furnishing mankind, notwithstanding the fierce competition which it meets all over the globe, American agriculture, manufacture and commerce are steadily gaining more trade, and thus furnishing an enlarged wage fund on a gold basis, out of which some millions of American laborers and skilled artisans draw their yearly remuneration and upon which they and their families largely depend for employment and comfort."

The Coyote Scalp Claims.

The State Board of Examiners are looking into the State's debt for coyote scalp bounties not yet paid. At a recent meeting, in speaking of the matter under consideration, the Governor said:

"The claims from the counties which are doubtful aggregate $110,000. I am in favor of setting out this amount to pay such claims as are found to be legitimate upon investigation, the remaining amount to be paid back into the treasury, these investigations to be made, say, before county judges, and each man to be required to testify as to where his claim came from. This would place frauds in a box. Some of these affidavits have become outlawed—that is, the three years within which they may be prosecuted has elapsed. I want to renew these oaths. We have got evidence which will prevent thousands of these being renewed."

After considerable discussion, it was decided that Secretary Markley be instructed to go over the claims and make a report of the amount necessary to pay the entire amount of the claims, money for fraudulent and doubtful claims to be withheld. The Attorney-General will then draw up a bill and submit it to the board for approval, when it will be included in their report.

THE VINEYARD.

Preserving Fresh Grapes.

In the RURAL of August 24, 1895, we gave an account of a new French method of preserving fresh fruit by enclosing it in a tight apartment in which alcoholic vapors were produced by evaporation from open dishes of alcohol. An experiment to test the value of the process was undertaken at the University Experiment Station under the personal supervision of Mr. F. T. Bioletti, and in a special viticultural report just issued by the University an interesting account of the results is given not only with the alcoholic method, but with methods employing other agencies.

Preservation of Fresh Grapes.—For four months in the year grapes are plentiful and cheap in California; for the other eight they almost disappear from the market. It is, therefore, very desirable to find some inexpensive and practicable way of keeping fresh grapes for as much of these eight months as possible. If this could be done it would be very profitable, as grapes kept till late spring or summer would increase three-fold in value.

In keeping grapes for any length of time there are two main dangers to be avoided—drying up and mold. If the grapes shrivel from loss of moisture they lose their character of fresh grapes and resemble raisins. If they are attacked by mold they are lost. Grapes for keeping should be handled with the greatest care. They should not be touched by the hand at all. In picking they should be handled by taking hold of the stem and laying them on straw, not allowing any bunch to lie on another. Only perfect and preferably loose bunches should be taken, all defective or bruised berries being carefully removed with a pair of scissors. The reason for such great care in handling is that the skin of the berry cracks very easily at the junction of the pedicel. This crack is often so small that it would not be noticed without careful scrutiny, but it gives an opening for molds and yeasts to enter the grape. A few grapes may start a growth of mold that soon envelops the whole bunch. It is also very desirable to retain as much as possible of the bloom of the grapes, and to do this there must be the minimum possible amount of contact between them and the hands.

Early Methods.—Certain tough-skinned grapes strongly attached to the pedicel may be kept without much difficulty till Christmas or the middle of January by simply hanging them up or laying them on straw in a fairly dry room of even and low temperature. By January, however, they become much shriveled. Some fleshy grapes, such as the Almeria or Tokay, do not show the effects of loss of water so quickly. By the Thomery method of keeping a piece of vine wood, attached to the bunch, in a vessel of water, the grapes may be kept several weeks longer. This method, however, is troublesome and expensive; the water must be kept disinfected by wood charcoal and the bunches gone over carefully very often to remove decaying berries.

Cork Dust.—The Spanish method of packing the

grapes in cork dust is excellent for very hard grapes, such as the Almeria, but does not do for more delicate varieties. On account of the expense of cork dust, attempts have been made to use sawdust as a substitute. There are several strong objections to its use, however. Even the most odorless sawdust communicates a taste to grapes after a few months. The hygroscopic nature of sawdust is very much against its use, especially if it is fine. If too dry, it extracts moisture from the grapes; and if moist, it favors the growth of mold. A process of treatment invented by Mr. Shepard seems likely to overcome both these objections.

Objectionable Shriveling.—All these methods aim to protect the grapes from mold by surrounding them with a dry atmosphere, and all fail to keep any but the coarsest varieties for the full eight months, on account of the drying up of the moisture in the berries. Other methods have been tried, the leading principle of which is to keep the grapes in an atmosphere saturated with moisture, thus preventing all shrinkage, and to avoid mold by the use of a very low temperature or antiseptics. Sulphurous acid gas preserves the grapes from mold without injuring their appearance, except for a slight bleaching; but the grapes soon contract a sulphurous taste, besides having their natural one destroyed, thus rendering them uneatable. The use of an atmosphere saturated with alcohol fumes has been tried in France, it is said, with great success. According to experiments made here, however, it is hardly to be recommended. Finally, the use of carbonic acid gas has been tried. The last is the most promising, judging by the few experiments made here.

Experiments at the Station at Berkeley.—During the vintage of 1894 an attempt was made to preserve grapes in sawdust. The varieties experimented on were Napoleon, Zabalkanski, Huasco, Muscat of Alexandria and Purple Cornichon from Tulare. Spruce sawdust was used, as having comparatively little taste. The sawdust was spread out in a thin layer and exposed to the sun until quite dry. It was then allowed to cool, and used to pack the grapes in the boxes at the vineyard. The packed grapes were then shipped to Berkeley, where they were allowed to remain in the same boxes. They arrived in perfect condition on November 1st. They all kept fairly well for a month; after this they commenced to decay or shrivel. At six weeks the Huasco and Muscat were all decayed. The Cornichon was less attacked by mold, but soon shriveled. The Napoleon and Zabalkanski kept best, but in two months none of them were in marketable condition. Even those which were not decayed had a slight mawkish taste due to the sawdust. The results, then, were inferior to those already obtained by keeping the grapes on straw or hung up on strings. This is partly owing to the impossibility of removing the decayed grapes before they infect the others. In order to make a preliminary test of the relative merits of alcohol vapor, carbonic acid gas and sulphurous fumes, the following experiments were made at the laboratory:

The Alcohol Method.—No. 1. A bunch each of Sultana, Gros Colman and Verdal were hung up in a box made of a five-gallon coal-oil can. The grapes were received on September 30, 1895, from Tulare. They were washed with a spray of water and put immediately into the box. A small, wide-mouthed, two-ounce bottle of alcohol was put in the bottom of the box, which was hermetically sealed with paraffine. All the grapes kept their appearances perfectly for five months, only a few turning brown. At the end of nine months most of the white grapes had turned brown, but the Gros Colman looked as if it had been just picked from the vine. They all, however, tasted strongly of alcohol and somewhat of vinegar. Many of the Verdal berries had fallen off the bunch. There was no mold on any of them. The turning brown seems to have been caused by a small yeast or torula which enters the grapes at the junction with the pedicel.

Sulphurous Acid.—No. 2. Four bunches of Black Prince and Mission grapes received from Tulare on September 30, 1895, were placed in a box similar to that used in experiment No. 1. The only difference of treatment was that the grapes were dipped in a weak solution of sulphurous acid before being hung up. The results were similar, except that fewer berries turned brown. They all, however, had acquired a strong taste of alcohol and vinegar, which made them unfit for eating. The appearance of the Mission grapes was particularly fine. At the end of nine months they looked as though just picked from the vine, being unshriveled and covered with bloom.

On November 2, 1895, another series of experiments was made. The grapes used were Pizzutello, Purple Cornichon, Flame Tokay and Zabalkanski from Tulare. Five tin boxes were prepared in the same way as for the first two experiments, and a bunch of each variety placed in each box. The boxes were covered inside and outside with a coating of paraffine to prevent rusting.

No. 3. The box was left open to the air as a control test. In nine days the Pizzutello grapes were turning brown, and, with the Tokay, were becoming moldy. The Zabalkanski and Cornichon were still in good order. In twenty days all the grapes were moldy.

Carbonic Acid.—No. 4. Sulphur was burned in the box as soon as the grapes were put in, in order to sterilize them. The next day the box was filled with carbonic acid and hermetically sealed. At nine and at twenty days all the grapes were good. At two months some of the gas had leaked out, but the grapes were all in good order and the box was refilled with carbonic acid. At the end of four months all the grapes appeared good, showing no sign of rotting or mold. They were as plump as when put in, showing no sign of cracking or shriveling. Even the delicate skin of the Pizzutello was uninjured. All of them, however, had acquired a strong taste of the paraffine with which the box was coated. At the end of nine months the grapes were still in the same condition, except that a few were becoming moldy on account of a small crack in the cover, through which mold spores had obtained entrance.

No. 5. This was a repetition of experiment No. 2, and gave the same results.

No. 6. After the grapes were put in the box, sulphur was burned beneath them and the box hermetically sealed. All the grapes were good at the end of twenty-two days, when a stream of sulphur fumes was drawn through the box. At the end of four months the grapes were all good, except that they had the same disagreeable taste of paraffine, which spoiled the grapes in experiment No. 4. At the end of nine months there was little change. The colored grapes were a little bleached and some of the white grapes had turned brown. The Cornichon and Tokay looked as well as when gathered, but the Pizzutello and Zabalkanski were inferior in appearance to those in the carbonic-gas experiment.

No. 7. This was identical with No. 4, except that a little alcohol and corrosive sublimate were placed at the bottom of the box. The results for the first four months were the same as in experiment No. 4; but after this the grapes become moldy, on account of a leak in the box.

These experiments, although in no case successful in preserving grapes in perfectly marketable condition, are very promising, and show that at least their appearance can be kept perfect. They show also the ease with which grapes, under the conditions of the experiments, take up odors, and the necessity of keeping them protected from anything that is liable to give them a bad flavor. It is for this reason that the use of carbonic acid gas will, in all probability, be preferable to the use of either alcohol or sulphur fumes.

THE POULTRY YARD.

Hints From the Poultry Keeper.

Giving Milk to Fowls.—When you use skimmed milk or buttermilk do not fill the vessels so that a portion will remain, but give only as much as the fowls will use at once, cleaning the vessels after the milk is used. What is better, mix the milk with ground grain in place of water, but always use that which is wholesome, and such as you would use for yourself.

Pounded Glass for Poultry.—Grit is sometimes too hard to procure, but broken glassware can always be had. It may be a matter of surprise to some that they are advised to give pounded glass to poultry, but it is harmless to them, and observation will convince the skeptic that when the hens have been unable to procure grit the pounded glass will be swallowed with avidity. Never use colored glass or crockery, as it may be poisonous, but keep a box of pounded glass, pounded crockery or some other sharp material where the hens can get at it all the time.

The Loss of Chicks.—There are but few farmers that know how many chicks they lose in a year. They set every hen that desires to hatch, a large number of chicks come out (but are never counted), and they are carefully attended to; but later in the season, when the farmer begins to inform himself regarding the number on hand, he is surprised to find a large majority missing. Gone—the hawks, rats, crows, snakes and family cat have decimated them to a very few. Chicks should be raised on business principles. They should be so managed that the farmer knows how many were hatched, and if a single one is missing he should at once innvestigate the cause and endeavor to avoid further loss from that source. If this were done there would be more profit and poultry would pay.

Disinfecting Against Roup.—The damp weather is very favorable to roup, and it is difficult to prevent it at times, even under the best of conditions. A box of air-slaked lime should be kept convenient for use, and the poultry house floors, as well as the outside yards, should be well dusted with it as often as it may be convenient to do so. The walls of the house should also be whitewashed occasionally, and a lump of lime should be kept in the drinking water. It is not claimed that this method will always prevent roup, but it will prove more valuable than if no such precautions are taken, and is recommended more for its simplicity and cheapness than for any other reason. The real best remedy is warmth and cleanliness, and as lime will add light to the interior of the house, and also assist in absorbing the moisture therein, it will be found of valuable assistance in promoting both cleanliness and the health of the fowls.

Giving Sulphur to Poultry.—We do not approve of the use of any kind of mineral medicines for fowls, especially when the birds are in good health. It is a habit with some to give sulphur, condiments and other deleterious substances to all the fowls. If such a practice should prevail with human beings it would not be long before sickness would result, yet the fowls are dosed daily, the result being injury, which is then accredited to anything but the true cause. Sulphur will cause rheumatism in adults and leg weakness in chicks, and will, if it once affects the system, show the effects every winter, especially in damp weather. Copperas is another mineral poison dosed out in the drinking water of fowls, and is harmful, it being a poison when taken in quantity, which is the case when the birds are compelled to drink the solution daily. Avoid all such things. Healthy birds require no stimulants other than sound food.

Light Under Brooders.—The aversion of all kinds of poultry to darkness is one of the causes of the loss of chicks in brooders that are not properly constructed. Chicks will not go under the brooders if the brooders are dark, and the consequence is that they become chilled and gradually droop. A brooder should be warm, light and cheerful, and be so constructed that the chicks can scratch and eat under the brooder as comfortably as when outside. It requires but a few degrees difference of cold to chill very young chicks, and it is not safe to permit them to go outside of the brooder house at any time during the winter. When kept in a warm room, and at no time exposed to cold, young chicks thrive well. All ills of chicks are ascribed to the food, but the majority of failures are due to lack of warmth at some period. It is much better to have a brooder too warm than too cold, and if there are any doubts in regard to the proper amount of heat to be given, let any error to be made be in favor of too much heat rather than too little. Above all things, have the brooders light during the day.

How to Dress Ducks for Market.—Ducks are killed by hanging them head downward, the feet caught in a loop of cord, and stuck in the roof of the mouth. While dying the feathers are quickly pulled, as many being plucked as possible before the duck is dead. It is then passed to an assistant, who proceeds to pluck the soft feathers and pin feathers until the carcass is clean. This is a very tedious operation, and some kill the duck, strip away the heavy feathers and wrap it in a large towel that has been dipped in boiling water, allowing it to remain for half an hour, when the feathers will easily come out. Beginners, however, should experiment with one duck in that manner, as there is a little practice required to learn just the right time to remove the cloth, etc. When all the feathers are off, and the carcass has been dry picked of all the pin feathers, it is then dropped into ice-cold water in order to remove the animal heat, and when cold the carcasses are hung up to drain and dry. They are then packed in clean boxes or barrels and shipped by express.

The Crossing Nuisance.—As soon as it is known by all that the best results are obtained by a strict adherence to the use of pure breeds the practice of destroying the flocks by crossing will cease. It is claimed that by crossing fowls the birds will become more vigorous, and also combine the good qualities of both breeds. This is true, but only when the proper breeds are used for that purpose. It is more frequently the case that the merits of both breeds are lost by crossing, and a mongrel produced from two excellent breeds. Some breeds do not "nick" with others, and to cross them is equivalent to reverting to that which the breeders have been aiming to leave. When crossing breeds select those that are hardy, and do not try to make a cross without selecting good specimens for that purpose. Just why some cannot keep two pure breeds more than one season without crossing them is a mystery, but such seems to be the case. We believe better results can be secured by using the pure breeds in their purity than by any system of crossing that can be made.

California Poultry Shows.

Los Angeles—February 2nd to 5th, 1897. Seventh Annual Exhibition Los Angeles County Poultry Association. H. W. Kruckeberg, secretary, Los Angeles.

San Jose—November 18th to 21st, 1896. First Annual Exhibition Santa Clara Valley Poultry and Kennel Club. Paul stockton, secretary, San Jose.

Sacramento—January 6th to 13th, 1897. Fourth Annual Exhibition California State Poultry Association. E. W. Sanderson, secretary, San Jose.

Oakland—January 21st to 28th, 1897. Second Annual Exhibition Pacific Poultry Association. Frank Seed, secretary, 417 Sacramento street, San Francisco.

San Diego—December 16th to 23rd, 1896. Second Annual Exhibition San Diego County Poultry and Pet Stock Association. Samuel Pettingell, secretary.

HORTICULTURE.

Protecting Fruit Against Frost.

We announced last week that the Riverside orange growers had entered upon a vigorous campaign against frost. We find by recent visits to the early fruit regions that much interest pertains to the same proposition on the part of the growers of deciduous fruits and there is a steady call for information which will lead to a better understanding of the points involved. Although we have previously given outlines of these matters it will no doubt interest many to have a restatement of the facts in other words and fortunately such accounts are abundant in current horticultural literature.

Why is There Frost?—In studying methods of preventing injury from frost it is necessary to have a clear knowledge of how and why the temperature falls and frost is produced. The surface of the earth is continually losing heat by radiation in to space, but during the day it usually receives heat from the sun more rapidly than it loses it by radiation, and therefore it grows warmer. Radiation, and consequent loss of heat, takes place most rapidly where there is nothing to obscure the sky. Clouds or any other obstruction act as a screen in retarding it. The escaping rays of heat strike the obstruction and are driven back to the earth. This is why frost is more likely to occur on a clear night than when the sky is cloudy. It also explains why smudge fires, by forming a screen of smoke over the orchards are a protection against frosts.

Why are There Frosty Spots?—Cold air is heavier than warm air, and this principle causes the air on slopes, as it becomes chilled by radiation, to flow down into the valleys, where it accumulates and becomes injurious. We thus understand why trees on the foot hills often escape injury from frost, while those in the adjoining valleys are damaged. Smudge fires are only effective in broad, flat expanses of land. In narrow valleys the cold air comes down from the hillsides and gets underneath the smoke. On windy nights the danger from frost is lessened by the warmer air above getting mixed with the colder air below.

The above theories of the radiation of heat and the falling of the colder air are tolerably well recognized by all orchardists, but there is another and perhaps more important law of nature, which is but little understood, and this is the "dew point" theory.

The Dew Point Proposition.—Everyone knows that the atmosphere holds a very considerable amount of water in the form of vapor, and that this visible vapor which is invariably present in greater or less quantities, can always be condensed into water if the temperature of the atmosphere be sufficiently lowered. If the condensation takes place at a temperature above the freezing point of water, the moisture is deposited as dew; if below the freezing point, the condensation is in the form of frost. To fully comprehend what follows, it must be understood that the temperature at which condensation begins is called the dew point, and this varies with the amount of moisture or vapor in the air. The greater the proportion of moisture the less the fall of temperature required to condense it into dew or frost. When the air is saturated with moisture the dew point will be reached at a higher temperature than when the air is dry. For instance, in a dry atmosphere the dew point may not be reached until the thermometer falls to 28° F. when frost forms. At this point peach buds are seriously injured.

How to Raise the Dew Point.—If, however, you can artifically add to the amount of vapor in the air by keeping the land moist by means of recent irrigations, then you raise the dew point and frost may be formed at a higher degree of temperature, or say at over 30° F., which is the amount of cold necessary to injure peach blossoms. If, therefore, you can prevent the temperature of the atmosphere from falling to 30°, you are safe. At first sight it may appear that if the vapor in the air freezes at 30° and the indication of heat still continues, the temperature will continue to fall until injury results. But here a very wonderful natural law comes into play.

Of course it is well understood that an enormous amount of heat has been required to convert water into atmospheric vapor. This heat is latent in the vapor, and when the latter is condensed into frost or dew this great amount of latent heat is given off into the atmosphere, and tends to keep at an even temperature. You have two forces at work. First, the radiation or loss of heat is reducing the temperature to the dew point, while the heat given off by the condensation of the vapor is keeping up the temperature just as fast as it falls to the dew point. This result is that unless the radiation is very great the temperature does not fall. Of course this theory does not work in cases where slight frosts would otherwise occur. For instance, where in a dry atmosphere the dew point would not be reached before the temperature had fallen to 29°, the dew point may be reached at 31° in moist atmosphere. In the former case the peach buds would be destroyed, while in the latter case they would escape injury.

How Water Prevents Frost.—Hence the object of keeping the surrounding atmosphere moist, and this can be attained by frequent irrigations or even spraying of the orchards at the critical period of blossoming. That this is not a fallacious theory has been proved over and over again by orchardists who have kept their land well saturated with water during the blossoming season, and who have escaped injury from frost, while their neighbors who have failed to follow this practice have suffered. The heat given off by the condensation of vapor into dew or frost is exactly equal to the amount of heat that was expanded in forming the vapor, and how enormous this is may be judged by the fact that the condensation of a pint of water from its vapor state will result in enough heat being given off to raise more than five pints of water from the freezing to the boiling point. We thus arrive at the seeming paradox that the formation of frost from vapor produces heat in the atmosphere.

Why a Steamy Smoke is Best.—In using smudge fires it should be understood that the heat of the fire has but little effect in diminishing the intensity of the frost, almost the entire protection being gained by the screen smoke produced. The efficiency of smudge fires may be greatly increased by spraying them with water, thus adding vapor to the atmosphere and raising the dew point, for as has already been explained, the dew point is reached at a higher temperature when the vapor in the air is increased. Moreover, by spraying the fires, the heat, which would otherwise establish an upward current of warm air that conducts the heat upward and beyond the space needing protection, is utilized in forming vapor and distributed through the lower stratum of air where it is most needed. As soon as this vapor is condensed at the dew point this latent heat is set free and tends to raise the temperature. Every quart of water thus evaporated and again conducted in the surrounding air is sufficient to raise 2° throughout a space of 80 feet square and deep.

A Florida Smudge Maker.—We gave last week a Riverside method of making smoke and steam. The Orlando *Reporter* gives the following details of the Stevens appliance of smudging for the prevention of frost: A bucket made of three thicknesses of hardware wrapping paper holding six pounds of crude rosin, with a small quantity of tow saturated with coal oil placed on top, is set at desired intervals in the grove or pinery. These, when lighted, will burn two hours, emitting a dense smoke which permeates the atmosphere and forms a cloud over the locality which is a positive protection from cold. In the experiment here referred to only three buckets were used, and they produced more smoke than would have come from a railroad locomotive burning pitch pine, and the cloud hung over the pinery for hours. The buckets are made by the Messrs. Stevens and the whole cost of the bucket and contents is only 5½ cents, which puts it within reach of anyone. To be more explicit, the bucket cost 3½ cents and the rosin 2 cents. While in operation the paper bucket burns down even with the combustible contents allowing ventilation which cannot be had with metal vessels. In case of severe freezes the bucket should be replaced two or three times during the night in order to keep up the favorable conditions desired.

Results by this Method.—As to the practical results the Messrs. Stevens, during the freeze of February, 1895, arranged these buckets in an acre and a half grove at Citra, and the result was not only the body of the trees but the limbs nearly up to the new growth were saved, and to-day that grove is bearing, while those in the same locality, not so treated, were killed nearly to the ground. To ascertain the cost of protecting an acre by this process it is only necessary to estimate the cost of about fifty or sixty buckets at 5½ cents each and in extreme cases multiply by three.

Winter Spraying in Placer County.

By B. R. Sherman, at Newcastle Farmers' Institute.

We are, however, thorough advocates of winter spraying and most emphatic in our opinion, and are satisfied that there is no phase of the orchard work of more importance, unless it be pruning—we call in question if it is not of more importance than cultivation and almost as necessary as pruning the tree or thinning the fruit.

We have some time since come to the conclusion that we must practice winter spraying in order to get anything like satisfactory results.

Reasons for Winter Spraying.—(1) It cleanses and invigorates the bark. (2) Kills insects, scales, parasites, etc., that may be of injury to the tree, and renders it obnoxious to their early return. (3) Very beneficial in obviating or annulling the cause of blight in the pear and curled leaf in the peach, mildew on the grape and other fungoids. (4) Distasteful to the peach moth, and thus keeping the fruit clear to a greater or less degree all through the season, and should be applied to nearly all, if not all, of the deciduous trees and vines.

Kind of Spray.—Some years since, when the I. X. L. compound first came to our attention, we took it up and felt that it was a good and efficient wash, and still believe it to be of merit, but are not fully satisfied with its all around results. The lye washes also have their merits, but for the most effective and gratifying results we adhere to the lime, sulphur and salt spray—30 pounds lime, 20 pounds sulphur, 15 pounds salt and 60 gallons of water—for all kinds of trees and vines to be sprayed.

Time of Spraying.—From January 15th until blossoms appear, according to the season, whether early or late. If we could control circumstances, would advise spraying the week prior to blooming to give best results, thus bringing the effect of the wash, and especially the sulphur, into operation when most needed—that is, when the curled leaf, mildew and pear blight make their appearance and do their work of destruction to foliage and fruit. The methods of applying are generally well known, and in this regard we think the cheaper and simpler pumps the most practicable, an outfit costing about $20 or $25, requiring three men for the large trees, and a smaller pump, requiring one man, for smaller trees and vines.

We believe that winter spraying should be universally practiced, and if this be done we are confident that better fruit and more of it, better prices, less loss by way of decay in transit, etc., would result, thus rendering the fruit business more pleasant and remunerative to the grower, the shipper and the consumer. Any new or advanced idea that may be offered will be gladly received and appreciated by us.

THE FIELD.

Sugar Beets With Irrigation.

Californian growers will be interested to read of the Utah practices of growing beets for the sugar factory by the aid of irrigation. The information comes through an address which a Utah expert gave to the people of Pecos valley, New Mexico, and it is quite suggestive.

Cost and Yield.—Respecting cost of cultivation, these figures are made on the supposition that you hire everything done: Preparing soil for seed, $3.50 per acre—that is, plowing, harrowing, leveling, rolling and the necessary work to make a seed bed; the first thing a man should do to make a success of his beet crop is to properly prepare his ground. We say plant fifteen to twenty pounds of seed per acre. Farmers have planted ten pounds here and got good stands, but we still insist that it is best to plant from fifteen to twenty pounds of seed, to be safe. If you get a rain on your land and it is inclined to crust, and if you have planted a small amount of seed, this crust may prevent the beets from coming up; but with fifteen or twenty pounds of seed, the beets will break through the ground. We say rows 20 inches apart, and believe this is the best way they can be put in; that the beets should be as nearly on the square as practicable (?); but as this is not practicable, we believe the beets should be 20 inches one way and 6 the other. The seed and planting should cost you $3.50—$3 for seed and 50 cents for seeding. Thinning will cost about $5 per acre. I do not believe it will cost you so much after you have raised beets a few years, provided the land is prepared well before seeding. The second hoeing is as necessary as the thinnings. This will cost $2 per acre. We irrigate two to five times, as the case may be, but say three times, at 40 cents per acre each irrigation, $1.20. It may cost more the first season, but that is what it will cost after you have been raising beets a few years. We cultivate six times, three before irrigation and three after, at a total cost of $14.40. Plowing beets out in the fall will cost you $1 per acre. Pulling and topping twelve tons of beets per acre, at 50 cents per ton, $6. This brings your crop to $30.60, provided you hire all the labor. Twelve tons at $4 per ton gives $48. Take $30.60 from $48 and you have $17.40—not a very big thing, we'll admit. Everybody is not going to get rich raising beets, if they hire all the labor performed, but it is a good business proposition.

Irrigation Methods.—Respecting irrigation in Utah, the speaker said: "Our water is run to us in canals and ditches in which we are all interested and have turns to use it. We never have more than thirty minutes to the acre, in Lehi, and sometimes it is cut down to fifteen minutes. As soon as you have commenced irrigating, you should see that the beet is kept supplied with sufficient moisture to keep it thrifty. I believe it will be about four and a half months from the time of planting until the beets mature on most of your land. It will take thirty days from the last irrigation before you can harvest—at least, it does with us. On very sandy land, twenty-five days; on clayey land, forty days, because when you are through irrigating for the last time your beets are nearly through growing and the sugar is forming. When given an irrigation the sugar in them will go down for ten or fifteen days, and it will take a little longer to get back again. It takes from twenty-five to forty days from the time of the last irrigation to prepare them for the factory. The first year our people irrigated beets to get tonnage. There was no sugar percentage clause in our contract. Only a clause to the effect that 'beets mostly above ground or defective would not be received.' Since then this has been changed. The ripening process will be watched by the sugar factory people, or somebody else. They will have a chemist make

analysis and examination of the beets and post the farmers as to what condition their beets are in, and what is best to be done to ripen them. The first year in Utah we did not prepare the ground properly. Our farmers did not have the experience we have today, and we made many mistakes by leaving our beets too thick. The consequence was that in the fall, when the beets were harvested, a great many of them did not pay for the harvesting. Our crop, both in quantity and quality, was very poor, and the cultivation not properly done. Not only the thinning and cultivation, but from the time the beets were put into the ground until they were delivered at the factory the work was not well done.

Thinning.—There are a great many details, and every man who goes into beet raising should study for himself, watch for himself and learn for himself what methods produce the best results. The beets in Utah are thinned out with the hoe, and I will show you the reason why I have tried to introduce it here. In thinning beets, if a man chops his beets out with a 4 inch hoe, leaving a beet every 6 inches, he will not get them too close together, and this is one of the secrets of beet tonnage. We commence thinning beets about the middle of May, and generally get through in fifteen days. We have always found in Utah that when we start a new man raising beets he always wants to leave them too close together when thinning. At Chino they find the same thing as here. We have insisted that beets should be left 6 inches apart and only one beet in a place. They do not grow like trees, but like parsnips, and if thinned to 6 inches, they will make a good crop and a good tonnage for the factory.

When to Irrigate.—A great many people ask me: "How many times shall I irrigate this field of beets?" I cannot tell them; if I stayed here I could tell them when they needed water—whether it was in three days or three weeks. When the leaves wilt down in the middle of the day, it is not so bad, but when they stay wilted in the cool of the evening, give them a drink. Let them suffer a little for water at this time of year; it will force the tap-root to reach down for moisture. In irrigating beets we take every other row, and find that the water, when run slowly, will irrigate both. Then we alternate the next time, and run water through the other rows, giving the beets equal moisture on both sides. After irrigation, cultivate as deep as you can—practically, 8 inches. It is necessary to loosen the ground around the beet, so that it may have a chance to develop. We take a little A-shaped sweep, with the point running into the ground, and all that it does is to lift the ground a little, but it loosens it up around the beet.

Orchard Grown Beets.—Respecting planting beets in an orchard: Beets require sunlight to make sugar. You know your alfalfa will not grow well under trees. You take the leaves away from a beet and it will not make any sugar until they grow again. Hence I say, don't plant under trees or in orchards. But one says: "I have only little trees, and they do not make shade." Do the best you can in seeding, and you will have eight rows between trees and two outside rows, which should not go to the sugar mill. You will find the outside rows will not ripen as the others do, but their tops will be a dark green at harvest time, when deeper in the field they will be a beautiful yellow.

Guarding Cultivated Land Against Washouts.

W. M. Bristol of East Highlands gives the Los Angeles *Cultivator* some suggestions on the protection of cultivated slopes from winter washing, which may be widely useful.

Prepare for Floods.—These suggestive predictions are not based on the position of planets, neither on the dip of the Hallowe'en moon; they rest upon the experiences of thirteen California winters. It has been said that the extreme of wetness is right on the verge of extreme dryness. This statement, coupled with the theory that the weather runs in cycles of seven, should at least prompt us to make ready for copious showers. Last winter the rainfall in southern California was exceedingly light; in fact, people who have come among us during the past six years have hardly seen it rain as yet in regular hard-fall fashion. And only those whose terms date back to '83 have seen the precipitation pass that arbitrary point at which a shower becomes a "cloudburst;" for, be it known, every shower is a cloudburst, the one differing from the other simply in degree.

Interference With Waterways.—Within the past five years many changes have been made in the face of nature in southern California, especially along the foothills. Many a wrinkle and many a mole have been smoothed out; many a ridge has been removed to fill a hollow in the effort to make the topography suit the purposes of the planter and the roadmaker. How many of these changes will be approved or overruled can only be known when the freshets come. It is safe to premise that what nature has done nature can do and is likely to do again.

If a natural waterway has been filled and no provision made for future floods it is reasonable to predict that they will reclaim and use the channels made by their predecessors.

Artificial Waterways.—In many cases where artificial waterways have been substituted for the natural ones they will be found insufficient by reason of their lighter grade or because of greater floods due to the removal of vegetation by fire or otherwise from the adjacent hills. The slightly lessened fall in the artificial channel may cause sand and debris to accumulate and render the ditch a delusion and a failure. History repeats itself and, the tenderfoot to the contrary notwithstanding, water in California does run down hill, and often with disastrous results.

Furrows to Prevent Rushes.—In all orchards where the slope is so great as to make the furrow system of irrigation necessary there is danger of washouts from the water which falls in the orchard itself, regardless of adjoining territory. In such cases a complete system of furrows should be made (the same as for irrigation) not later than November 1st, and water run through them to make sure that they are all perfect. These furrows being left open and the ground uncultivated, a crop of alfileria or other vegetation springs up, which helps protect the soil during the winter rains and is worth several dollars per acre as a fertilizer if plowed under in the spring.

Value of Vegetation.—Every irrigator knows that muddy water penetrates the earth very slowly, because the fine particles held in solution clog the pores. If a heavy shower fall on bare ground the result is a sheet of muddy water, which is likely to concentrate in a downhill rush. If the earth be covered with a mat of vegetation the force of the falling rain drops is broken, the water descends gently to the ground and in its clear condition penetrates readily and the earth becomes a reservoir, the orchardist meanwhile resting serenely under cover, confident that his land is not paying tribute to the ruder flood going seaward.

A word to the wise should suffice.

FLORIST AND GARDENER.

Rose Pruning at Fresno.

Phil G. Schluch of Fresno gives the *Interior* some advice on the pruning of roses. He says that although November is late in the season, it is not too late to trim roses and other flowering shrubs, as well as running roses and climbers, such as ivy, honeysuckle, wisteria, Virginia creepers and others; but it is roses mainly whereof he wishes to give some points for the benefit of those who favor this, the queen of flowers.

Need of Pruning in this Climate.—It is not generally known that the rose in tropical and semi-tropical regions needs more attention in regard to trimming, training, etc., than in colder countries, in order to produce perfect flowers. In the former they grow twice and often three times as strong as in the latter, and therefore require more trimming than their sisters in colder climates. It is therefore just as scientific a task to properly prune the different species of roses as it is to prune the various kinds of fruit trees. If one should try to trim a Marshal Neil, Reine Marie, Henrietta, William Allen, Richardson, La Marque, etc., and a Beauty of Europe, Beauty Inconstant, La France, etc., the result would be a tremendous growth and few or no flowers on the one and an abundance of dwarfed flowers on the others.

Treatment of Rose Bushes.—He does not intend to prune roses just now unless where necessary; that is, where they were not properly pruned last fall or early spring. He only speaks of roses supposed to have been properly pruned in fall or spring and which are otherwise in good condition. As soon as the first flowers are fully open they should be cut off. Never allow them to drop, or, what is worse, let their fruit begin to develop or dry on the plant. All growth coming forth from underneath the surface, and coming from below the bud on budded roses, must be kept down. The latter are easily pinched off while they are young, but with others the soil must be taken away and the sprouts taken off clean from the trunk. With roses on their own roots all growth beneath the old branches is also to be kept down, except such growth as is necessary to afterward replace the old growth. Every six weeks, at least, during the summer all branches which have done flowering should be cut back to the next well-developed bud or new sprouts. All growth which will never produce flowers, and which is easily recognized by its pointed top, or top without sign of further growth, should be cut off, if possible, without injuring the main trunk or marring the general outline of the bush.

Running Roses.—The above is exclusively for bush and not for running roses. It also applies to standards, whether budded or on their own root. All running roses should be freed from all faded flowers before their second growth is too far advanced, in order to get a good second display of flowers. At the same time all outward growth and all branches not growing in the desired direction should be brought in proper position and tied. If they are not required to fill any space, they must be cut back to not more than three or four buds. Such running roses as Banksia, Cherokee, Greville, Prairie Queen and all similar ones should be freed from their faded flowers and kept free from suckers and all extraneous growth during the year.

THE DAIRY.

Dairying in California.*

NUMBER V.—CONCLUDED.

DAIRY MARKETS OF CALIFORNIA.

San Francisco, with thrice the population and more than thrice the local and distributing trade of any other California city, has always been naturally the great dairy market of the State. There is in fact only one other city which approaches even to one-third of the dimensions of San Francisco; that is Los Angeles, and she has only recently arrived at this estate. The growth of Los Angeles and southern California generally, has, however, recently created a diversion of a part of the dairy trade southward, for the consumption of dairy goods in southern California is still considerably greater than the increased local production. Speaking generally, the surplus dairy production of the northern two-thirds of California goes to San Francisco and of the southern one-third to Los Angeles. Along the borders of this division shipments go either way, as the demand seems to warrant; but aside from this general movement, San Francisco reships large quantities to southern California, and sometimes the product of Nevada creameries goes direct to Los Angeles as a better market than San Francisco.

The receipts of butter and cheese in San Francisco during the year 1895, as compiled by the *Journal of Commerce*, were as follows:

	Pounds.
Butter.	
California manufacture	13,796,000
Oregon	413,000
Eastern	184,500
Total	14,393,500
Cheese.	
California manufacture	4,624,500
Oregon	132,400
Eastern	1,738,270
Total	6,495,170

The extension of the creamery interest in California has taken from San Francisco somewhat of its importance as a distributing market to the towns of the State, because creamery managers have developed direct trade with jobbers and retailers in the smaller towns as far as possible. Formerly there were large supplies sent from San Francisco to Portland and the Puget Sound cities. Recently the dairy development of Oregon and Washington, and the enterprise of the creamery interests of the region northwest of Chicago to ship their surplus westward by the Northern Pacific, have very much reduced California's sales in the northern region of our coast. These regions are, in fact, so well fitted for dairy production that they will probably soon have a considerable surplus, for which they must seek distant markets.

San Francisco enjoys the distinction of being the third port of the United States in the export of dairy produce, New York and Boston alone exporting larger amounts; but this distinction is secured upon a very small volume of trade. The total valuation of the butter and cheese exports from San Francisco in 1894 was $118,530, and in 1895, $99,075. Of these amounts nearly one-half went to British Columbia, and for this trade in the future California must contend with the development of local production in the Dominion and compete with the coming surplus in the nearer States of Oregon and Washington, already alluded to. The other half of San Francisco's exports of dairy goods is distributed all over the countries bordering on the Pacific, including the Hawaiian Islands, the Asiatic countries, the islands of Oceanica, Mexico, and Central America—a magnificent geographical area, but one in which dairy demand is confined almost entirely to the small colonies of Europeans located at points of commercial importance. Californians have indulged in some speculations as to the possibility of developing dairy trade in these densely populated parts of the world, especially in Japan, and the same intention has been disclosed by the shippers of creamery products from the region northwest of Chicago, but there is much doubt whether these Asiatic people will change from their long established food supplies much faster than they will learn to produce for themselves. Shipments of dairy cattle have been frequently made from California to Japan during the last ten years, and their acquisition of dairy arts may be expected.

EASTWARD SHIPMENT OF CALIFORNIA BUTTER.

Some moderately encouraging results have been attained in shipping fresh California butter to the regions east of the Rocky mountains during the closed season of the Eastern dairies, but the growth of winter dairying at the East, the improvements in cold storage, and the improvement of Eastern winter-made butter by the use of succulent silage in connection with the old style of wintering on dry feed, coupled with the vast superiority of the keeping quality of creamery butter over the old firkin

product, tends to reduce the field which California fresh winter butter might have enjoyed if the Eastern product had not thus improved. Still it is hoped that by developing the creamery system here, and thus rendering available large uniform lots of butter for Eastern shipments before the Eastern grass butter comes forward, California may find some outlet eastward at favoring times of the year for an amount at least equal to the shipments from the East to California during the months when our output is small. Either this must come or some very notable increase of local population, by the development of mining interests which are now very promising or by other local industrial advancement, is necessary, before any great increase of the present dairy production of California will be warranted. In fact, in the upper San Joaquin valley, with no large towns and a long haul by rail through a hot valley to reach either San Francisco or Los Angeles, two cheese factories did not open in 1896 because of oversupply in local markets. But while this is the case, there is still a steady consumption of Eastern and foreign cheese in preference to California cheese. For the last five years this supply has averaged about 1,750,000 pounds annually, and this continues, although California producers have made some effort to give their product the form and character of the popular Eastern and European cheeses. There is a prejudice among certain classes of consumers for "imported" goods which handicaps local producers in their efforts to produce similar articles. This is in part inexplicable, and in part due to the inheritance of a bad name from our earlier years of careless dairying.

DAIRY ORGANIZATION AND PROTECTION.

The first State Association of California Dairymen was organized in 1876. It was modeled after the leading associations east of the Rocky mountains. Several interesting conventions were held in San Francisco, but the dairy public did not manifest the interest which was expected and the effort was abandoned. In 1882 the industry was menaced by a proposition to establish an oleomargarine concern in San Francisco, and this provocation rallied the legitimate producers in a large convention held in December of that year. A draft of an enactment against imitation dairy goods was agreed upon and it was passed by the California Legislature in the winter of 1883. It was a good law, but it offered no reward for information and the dairymen relaxed their co-operative efforts as soon as the law was safely inscribed upon the statute book. There was then no machinery to promote prosecution, and the only effect of the law was to prevent local investment in oleomargarine enterprises. Year after year, however, imitation products were brought in from the East and freely sold in defiance of the law without prosecution. Just as soon as prices showed a tendency to advance with the lessened dairy production of the autumn, great quantities of the spurious goods were shipped overland to California, to the great distress of producers of the pure article. The passage of the United States law led to delay in the hope that it would check the evil. At last, in 1893, it was evident to dairymen that they must do something more effective than they had yet accomplished in their own behalf, and a new association, called the California Dairy Association, was organized in the fall of that year, which has constantly increased in membership and has full promise of permanence. It held excellent conventions in San Francisco in 1894 and 1895, and during the present year has held monthly meetings at different dairy centers in addition to its annual convention. But the chief achievement of the association, supported by the dairy interest at large, was done at the session of the California Legislature of 1895 in the enactment of a new dairy protective law and the creation of a State dairy commission to enforce its provisions. The law providing for these two results was approved March 9, 1895, and is condensed as follows:

The coloring of oleomargarine or other imitation product in imitation of butter or cheese made from unadulterated milk is absolutely prohibited. And the possession of, sale of, or offering to a patron for consumption, of such imitation product when colored to imitate the genuine, is a misdemeanor.

The use of the words "butterine," "dairy," "creamery," or of dairy symbols in connection with the sale or advertisement of the imitation product is absolutely prohibited.

In the handling of the imitation product, the manufacturers, shippers, carriers, wholesalers and retailers, peddlers, bakers, hotel, restaurant, and boarding-house keepers must comply with certain regulations as to the labeling of the packages, the specification by printed statement of the contents and the proper notification of the purchaser, consumer, or patron.

Other provisions of the law invalidate a contract made in violation of the act, prohibit the use of imitation products in charitable institutions; make the effacement of labels and marks a misdemeanor; provide what is evidence of intention to violate the act; authorize the State Dairy Bureau to make use of the search warrant; require the district attorney to prosecute and the informer to receive half of the fines; and establish a State Dairy Bureau for the period of two years and with a fund of $12,000 for the enforcement of the act. Violation of any of the provisions of the act is a misdemeanor, and a first offense is punishable by a fine of not less than $50 nor more than $150 or by imprisonment for not more than thirty days; and subsequent offenses are punishable by a fine of not less than $150 nor more than $300 or by imprisonment for from thirty days to six months, or by both.

In compliance with the terms of this law, Messrs. L. Tomasini, Thomas Flint, Sr., and George W. Burbank were appointed to constitute the State Dairy Bureau, which began on May 1, 1895, a vigorous prosecution of the law. This action resulted in the abandonment of a projected local manufactory of oleomargarine, and vigilance on the part of the bureau has reduced the trade in imitation products made elsewhere to a very small aggregate. This result, coupled with the low price of butter, has practically freed California, for the time being, at least, from competition with imitation products which had been for years very grievous. The secretary and executive officer of the bureau is William Vanderbilt, and the offices are at 113 Davis street, San Francisco.

In addition to the organizations for dairy promotion and protection already mentioned there is a Dairy Association of Southern California with headquarters at Los Angeles.

Report of the State Dairy Bureau.

L. Tomasini, Thomas Flint Sr. and Geo. W. Burbank, members of the State Dairy Bureau of California, have submitted their report, covering the operations of the Board and of their agent and secretary, Wm. Vanderbilt, from May, 1895, to Oct. 1, 1896. Readers of the RURAL already know that as soon as the law of 1895 went into effect, the local manufacture of oleomargarine was stopped. Through the activity of the Bureau in enforcing the law, the introduction from the East has been reduced to a minimum.

Oleomargarine Business Reduced.—From Jan. 1, 1894, to March 1, 1894, over 450,000 pounds of oleomargarine and butterine were sold in this State. Of this amount 300,000 was made here and 150,000 brought in from the East. It is estimated that the legitimate dairy interest lost $100,000 by this trade. Eighteen United States Revenue licenses were issued during the last half of 1894. Since July 1, 1895, only four licenses have been issued by the Internal Revenue Department for the sale of oleomargarine. All of these licenses were issued to dealers in the city of Los Angeles. Three of these licenses were surrendered before the time expired for which they were issued; the other one expired on June 30, 1896.

There have been no licenses issued by the Internal Revenue Department for the sale of oleomargarine in this State from July 1, 1896, to October 1, 1896. Since May 1, 1895, when the Bureau commenced the enforcement of the law, no oleomargarine has been manufactured in the State, and not to exceed 30,000 pounds of oleomargarine has been imported into this State, and all of this amount was received in the city of Los Angeles. Seventy-five per cent of that amount was reshipped from Los Angeles to Arizona and other places outside of this State. It is a well known fact that the dairymen and creamerymen of the State had become discouraged and fully convinced that butter could not be manufactured and compete with the unlimited sale of oleomargarine. And it is evident, had it not been for the timely intervention of legislation against the unlimited sale of oleomargarine and filled cheese, the dairy industry of the State would have been ruined.

Cheese.—It is a well known fact that a large amount of cheese consumed in this State is imported from Eastern States, while a very small amount of cheese manufactured in this State is exported, which shows that the dairymen of this State should turn their attention more to the manufacture of a standard article of cheese, and, by so doing, relieve the market as much as possible of the overproduction of butter, and keep the money in the State instead of sending it East for the imported article. There is no reason why the dairymen of this State cannot make as good an article of cheese as there is made in the Eastern States, if they will study the science of cheese-making. It is a well known fact that the cheese manufactured in this State, with very few exceptions, is rushed to market in a few weeks in a soft and poor condition. Such cheese will not compare for food value with properly made and well-cured cheese.

At the present time there is only a small amount of cheese manufactured in this State by what is known as the Cheddar process, while a large per cent of Eastern cheese imported into the State is made by that process, and is not shipped to market until thoroughly cured, which takes at least six months from the time of manufacture.

The two principal manufactories of cheese at the present time, by Cheddar process, are the Fallon creamery, in Marin county, and the Pescadero creamery, in San Mateo county.

Proposed Branding.—There should be a law passed by the next Legislature fixing a standard for cheese manufactured in this State by requiring all manufacturers of cheese to procure an official brand from the State Dairy Bureau and brand each and every cheese at the place of manufacture, and not to be used by any other person than the one receiving the same. Such a law, if passed, would be a protection to the cheese industry of the State, by preventing cheese not made in this State from being sold for California cheese, and would also stimulate cheese manufacturers to make a standard article, and, by so doing, make a reputation for California cheese at home and abroad.

Creameries and Cheese Factories.—From all the information the Bureau can obtain, there are in this State 203 creameries (individual, co-operative and stock companies) manufacturing butter by separator process. Of that number 119 are operated by individuals and 84 by co-operative and stock companies; 11 of that number are manufacturing both butter and cheese. There are twelve cheese factories receiving milk from patrons manufacturing cheese exclusively. The balance of cheese is manufactured by individual dairymen and by creameries manufacturing both butter and cheese.

From reports received by the Bureau and other information, there was manufactured in this State for the year ending October 1, 1896, by separator process, 10,097,323 pounds of butter and 21,508,117 pounds by the old dairy method. The total amount of butter manufactured in the State for the year ending October 1, 1896, was 31,605,440 pounds.

From reports received by the Bureau and other information, there was manufactured in this State for the year ending October 1, 1896, 6,383,130 pounds of cheese.

The counties manufacturing the largest amount of butter by the old and new process are Marin, Humboldt, San Luis Obispo, Sonoma, Monterey, Santa Cruz, San Mateo and Los Angeles. The counties manufacturing the largest amount of cheese are Santa Clara, San Mateo and Los Angeles.

Dairy Value.—The following table shows the value of the dairy industry of the State of California for the year ending October 1, 1896:

Value of 31,605,440 pounds of butter	$ 5,688,979
Value of 6,383,130 pounds of cheese	478,734
Value of 45,624,600 gallons of milk consumed	4,562,460
Value of calves from dairy cows	642,994
Value of pork produ'd at creameries and dairies	957,900
Total	$12,331,067

Amount of Eastern butter received in the State for the year ending October 1, 1896: 608,200 pounds. Amount of Eastern cheese received for same time: 639,840 pounds.

SHEEP AND WOOL.

The Oregon Angora Breeders.

California Angora breeders will be interested to know that the Oregon breeders are falling into line and anticipating a revival of the mohair interest. The Oregon *Agriculturist* has an account of a meeting held Nov. 7 at Independence, of which we take the leading items. Mr. J. N. Hawley, president of the Bank of Monmouth, was made chairman, and L. G. Gurnett of Portland, temporary secretary.

Organization.—A constitution was adopted and ordered printed for distribution among the members. The last Saturday in February was selected as the date for the annual convention, and Independence as the place for the meeting in February, 1897. At that meeting the place for the next annual meeting will be selected.

Officers were elected as follows: J. H. Hawley, Monmouth, president; John B. Stump, Monmouth, vice-president; L. G. Gurnett, Portland, secretary-treasurer.

Resolutions were adopted as follows: First—That the Association would act in conjunction with the California Association in any matters looking toward the improvement of the mohair industry.

Second—That the secretary prepare a memorial to Congress, calling for the restoration of the duty on mohair, formerly 11 cents per pound, but now coming in free with wool under the Wilson law.

Third—That the secretary investigate and report at the meeting in February the best methods for packing and grading mohair.

The Outlook.—President Hawley then addressed the members on the possibilities of the mohair industry, when properly conducted, and said that no other animal on the farm returned as much profit as the Angora goat; that the mohair industry is but one of the many which could profitably be developed in Oregon, and with intelligent action, and in prudent hands, there was no reason why it should not become one of our most profitable industries. It will relieve some of the more crowded branches, give employment to more labor, and be of material assistance in paying our taxes.

Mr. A. Blackburn addressed the meeting on the subject of grading mohair when marketing. He said that the ordinary custom of putting all the grades into one bale should be abolished, and that the grades should be baled separately. In this way breeders will get for their fine hair what it is worth, and for kemp, or coarse hair, and other grades in proportion. Heretofore it has been the custom for the purchaser to do the grading, and the price offered for the hair has always been made low enough to cover any possible errors of judgment on the part of the purchaser in estimating the amount of the different grades.

Mr. John B. Stump called attention to the care necessary to be taken with goats after March 1, in order that the largest number of kids possible could be saved.

The secretary was ordered to investigate the best means of obtaining some pure blood animals for the improvement of present stock. The meeting adjourned to meet again the last Saturday in February, 1897.

THE HOME CIRCLE.

Feet of Clay.

I burned my heart as incense night and day
Before a shrine where scorners turned away.
Upward I gazed, and only cared to see
The glorious face that showed a God to me.
I kissed the garment's hem
That swept about the feet and covered them.
But hands unhallowed tore the robe aside.
"Behold thine Idol!" mocking voices cried;
"He whose winged flight thy blind embrace would stay
Hath feet—ah, hear!—of clay!"

Pass, bitter hearts! the smile of scorn is mine;
The worship his, whom still I deem divine.
What if the touch of earth, its base desires,
Its dross unpurified in passion's fires,
Cling to the feet I kiss?
Oh, light were love, to forfeit faith for this!
What loss were his, what woful gain were mine,
If from that sun-and-star illumined shrine
One heart's poor candle I should take away—
I, who am *all* clay!

Haply our homage had not seemed so dear;
Haply he had not sought a temple here,
Nor in his service had I known such joy,
But for the mingling of that earth alloy!
O soul that woke for him,
What larger hope hath lit thy prison dim!
May I not rise from these unquickened clods
To claim eternal kinship with the Gods?
To godlike stature grow, through hearing—yea,
Like him—the print of clay?

—Harper's for November.

The Twenty-four Presidents.

Washington first of the Presidents stands:
Next placid John Adams attention commands;
Tom Jefferson's third on the glorious score,
And square Jimmy Madison counts number four.

Fifth on the record is plain James Monroe;
And John Quincy Adams is sixth, don't ye know?
Next Jackson and Martin Van Buren, true blue,
And Harrison ninth, known as Tippecanoe.

Next Tyler, the first of the vices to rise;
Then Polk and then Taylor, the second who dies;
Next Fillmore, a vice, takes the President's place;
And small Franklin Pierce is fourteenth in the race.

Fifteenth is Buchanan, and following him
The great name of Lincoln makes all others dim;
Next to Johnson comes Grant with the laurel and bays,
And next after Grant comes Rutherford B. Hayes.

Next Garfield, then Arthur, then Cleveland the fat;
Next Harrison, wearing his grandfather's hat—
Adroit little Ben, twenty-third in the train,
And last in the list, behold Cleveland again.

—Ram's Horn.

A Widow's Catch.

When the busybodies of the little fishing clachan of Lochfruin beheld daft Jamie McPhail sitting below the stern of the time-and-tattered herring smack "Katie of Lochgoyle," and noticed that he was busy with brush and paintpot, business for the nonce was suspended in consequence and housepots and brushes forsaken till the mystery should be solved.

The coterie of matrons ensconsed behind a dry-stone dyke talked long and excitedly seeking a solution of the problem, and when Jamie's brush at last proclaimed in straggling fashion to the watching populace that the ancient boat was to sail under the license number of G. K. 4831—altho' nobody took exception to the fact that the angle of the figure four pointed west instead of east—light dawned upon old Betty Armour and she cried: "Ou ay, wives! The weedy Poole has no forgotten. That's her man's old number back again for shair. Ye mind that nicht we lifted his corp from the sands o' Dornockside, the tail-board o' the smack cam' ashore wi' him—ay-ay—puir man! A mind well the number wis 4831—an illfaured, unlucky number say I. They'll no sail again wi' it shairly!"

But next morning when Jamie was putting on the finishing touches with yellow paint and the "Weedy" and her sonsie daughter Meg were seen busy mending the old nets that had come forth from their hiding place in the cow byre, the verdict of the court of matrons was rendered in Betty's words: "Ye'll min me noo! Weedy Poole's to stairt the boat the year wi' daft Jamie for skipper. Megsty me! Sic Havers!" The body's clean doft nae doot. The number 4831 maun sink them sairtin."

Little, however, did the wise women of Lochfruin understand the thoughts that stirred the bosoms of the widow and her child as they toiled afresh at the work laid aside years ago when the remorseless tide threw Ben Poole's corpse high up upon the sands. They forgot how long it lay among the dank seaweeds, where the sea-pinks nodded their heads solemnly in rhythm to the mournful screaming of the gulls, until daft Jamie found it. They knew not of the heart-sores still unhealed that were rent that day when Jamie staggered into the cottage with his ghastly burden and exclaimed: "Janet Poole, a hae brocht ye yer man!"

Nor did they know of the stern battle the mother and daughter had fought with the world to keep up appearances in the village and send the many bairns well fed and clad to school. They took it for granted that her "man" had left "a fell wheen siller," but even Jamie, who never for a moment forsook the family that had sheltered him in brighter days, could have told in some sort of fashion, had he cared to do so, of days when hunger's pangs were stayed with "dulse" and mussels from the rock-pools of the bay; of days—yes, weeks on end—when "saut herrin'" had "saut herrin'" for sauce, and the oatmeal, even, was well-nigh gone in the girnel.

Do not think for a moment, either, that Meg's "lad" knew of these things, for such things are sacred to the proud "puir folk" of Scotland; and when on every Saturday night for seven long years he had entered the cottage with his customary remark, "It's a wee wild ootside the bar the nicht," or "it's to be saft the morn," Meg blushingly set forth upon the table some steaming tid-bit never tasted by the family. But then Donald Moir was not just "guid in the uptak," tho' as honest and industrious as any young fisher lad in the district; and maybe that explains why no ring yet showed on Meg's plump finger—a fact that annoyed "Weedy" Poole sorely and led Meg to close many a wordy argument with "Gie him time, puir fellow—gie him time!"

Often before Ben Poole was drowned had the swain seemed close upon the question; but, as the old skipper lent but little encouragement to the suit, more time was taken, and since the burial day Donald hung back and went on as before, while Meg understood, sighed, hoped and waited.

The bairns were growing big lads and lassies now, and the "wee kale yaird" and "ae coo" no longer kept pace with appetites lustily nurtured by salt sea air and sturdy exercise. Something had to be done, and Meg it was who proposed one night that the old Katie of Lochgoyle should be launched once more and the fishing be tried in some way or another.

Jamie took kindly to the work, and, with the strong women's assistance, shoved the old boat boldly into the waters of the bay. That was a launch to be remembered, for the Katie had forgotten how to swim. The cool waters gushed joyously into her sunburst cracks and she settled speedily and peacefully to the bottom, Jamie crying, "Let her bide!" This they did, for Meg advised, "Gie her time, puir thing, and the water'll swell her tight again!" And so it happened, for one fine morning the gunwales appeared above the surface and Jamie stepped aboard, sinking her again, then commenced to bail out the loch with might and main, until the widow, laughing, cried, "Come oot o'er, ye gomeral, and gie her a chance to float!"

And so the work went on; and at last, with several coats of tar between her and the fishes, the Katie swam like a very dirty duck upon the bosom of the loch, becking and bowing to the ripples just as though her number were not G. K. 4831, or her shape a travesty on modern smack loveliness of line. The old patched nets, with their tarred bladder-floats and corks, were piled high in the stern. The mast was stepped in style and the lug-sail set without sagging. Water-washed whinstones were taken aboard as ballast. The furnishings of the craft were complete and Jamie, in oilskins and sou'wester stripped from the potato patch scarecrow, sat in dignity with the tiller in his hand as the widow and Meg came trampling tidewards over the glistening pebbles.

A proud man was Jamie that day; for it had not entered his head that he was not skipper of the Katie. But "pride goeth before a fall," and now was the time of his dejection. Majestically the widow Poole waded to the side of the smack and climbed aboard, Meg following with the long "sweeps" over her shoulder and a creel of provisions slung on her back. "Hooray!" cried Jamie. "Bonnie Katie! G. K. 4831!—Push off, Weedy!—Push!" But here his enthusiasm ended, for the widow seized him by the neck and cried, "Oot ye go, Jamie! Gang hame and mind the bairns." And Meg had to help in the skipper's ejection, for he struggled and bawled, and as the smack got under way they left him standing up to his armpits in water, with salt tears coursing down his cheeks to join the ocean, and heard him cry till they were well-nigh out of sight, "Ye'll droon, Weedy! Ye'll droon! Try off Drumskaulie Point—Lots o' herrin'!"

But they did not "droon," and because they feared the ridicule of the fisher folk in the herring fleet, which was even then headed due south for the favorite fishing grounds of Kirnbrodie Bay, they set their course for the point advised by Jamie, although Meg remarked, "Faither aye said he catched naethin' but dog-fish there."

Little cared they for the jibes and jeers which well they knew the old wives ashore were sending after them as note was taken of the Katie's erratic course. Their minds were set on victory and their nostrils drew in the bracing air, redolent of the sweet scents of the bog-myrtle and the heather, as they plied willingly at their unwonted task. And shall it be told, that as the anchor found the pebbles on the bottom off Drumskaulie Point Meg knelt upon the ballast stones while her mother raised her voice in the still air of the gloaming to the Father of the "faitherless bairn," and prayed that He might direct them to let down their net upon the right side and that it might be filled with fishes.

Through the long night they toiled and many were the alarms that met them in the solemn stillness, but their net at last was struck by a shoal of herring and work commenced in earnest. Soon a glittering mass of silvery-sided fish shimmered below the thwarts in the moonlight; yet still were there more to take. Overboard went the ballast stones. The mast followed, and was tied behind the stern. The net was stripped again, then left anchored to its buoys. And, as the dawn of morning commenced to tinge the hills with softest pink, slowly and carefully rowed the tired woman toward the shore. The purple lapping waves rippled laughingly against the bulging sides of the ancient Katie, and now and then splashed overboard among the leaping fish that filled her almost to the gunwale. But the women rowed on undaunted, and the sea in sympathy stilled its anger that at its slightest ebullition would have swamped the boat. And so, quietly and cautiously, they made their way towards the clachan pier, where already they beheld the rest of the fleet arriving ahead of them. Nearer and nearer they came and now Meg cries "Yon's Jamie!" and his voice reaches them shouting, "Gang slow!—Gang saftly!—Ye're droonin'—nae skipper—G. K. 4531!" And need we describe the surprise of Donald Moir, whose hand it was that first caught hold, then aided a hundred others in drawing the heavy-laden smack up to the pier?

"G. K. leds!" yelled Jamie. "Fower thoosand aight hunner and thairty-wan crans (barrels), and no anither man amang ye has a herrin!" at which the old wives and fishermen cheered, then speedily beached the wondrous catch.

The number of "crans" was very much less than Jamie in his ecstasy claimed, but realized a sum which would do much to relieve the widow's povery, and luck was yet to favor her—but shall we call it luck?—for next evening the fishing fleet stole away an hour earlier than usual and steered for Drumskaulie Point, much to the chagrin of the widow; but as Jamie pushed the doughty Katie out to sea he shouted, "Mind what a tell ye!—Mind noo!—Try Kirnbrodie Bay!" And so they did, and once more came the old Katie home in the morning filled to the brim with the herring that had returned to their wonted feeding place.

This was a victory indeed, and Donald puzzled over it all day among the hills behind the clachan. Then he donned his Sabbath clothes, hesitatingly ascended the little pathway to the widow's cottage, entered the door and remarked: "It's braw and calm ootside the bar, Meg; and—and—Meg—will—ye—be—ma skipper?"

The bells pealing from the steeple of the clachan kirk a week later sang to the world that Meg's fishing days had ended happily—Dr. A. S. Alexander.

Gems of Thought.

Courage is adversity's lamp.—Vanvenargues.

Lawless as they that make their wills their law.—William Shakespeare.

It is the law of Heaven that you shall not be able to judge what is wise or easy, unless you are first resolved to judge what is just, and to do it.—Ruskin.

When home is ruled according to God's Word, angels might be asked to stay at night with us, and they would not find themselves out of their element.—Spurgeon.

Our fellow creatures can only judge of what we are from what we do; but in the eye of our Maker what we do is of no worth except as it flows from what we are.—S. T. Coleridge.

If you want to be miserable, think about yourself, about what you want, what you like, what respect people ought to pay to you and what people think of you.—Charles Kingsley.

The setting of a great hope is like the setting of the sun. The brightness of our life is gone, shadows of the evening fall around us and the world seems but a broader shadow.—Longfellow.

"Beauty is but skin deep." That is a skin-deep saying. Beauty is heart deep. It is out of the heart we desire it. It is out of the heart it grows. This is not a mere saying like the other. It is the fact and secret that we are eager to penetrate.—Mrs. A. D. T. Whitney.

As a fountain finds its expression in overflowing, as a river in rushing to the infinite main, as trees bursting into life and blossom in the springtide, so God feels it his joy to give liberally, and to give above all we can ask or think or desire, for Christ's sake.—Cumming.

Fragrant Pillows.

Almost every one is familiar with the fragrant pillows of balsm spruce, which came into use a few years ago. They were so agreeable and possessed of such soothing powers that fashion's whims cannot drive them out of use. Lavender linen has always been credited with the gift of inducing sweet dreams. Now lounge pillows are perfumed in this way. There is also a pillow stuffed with rose petals and one of milkweed down, more fairylike in its softness than the down of the famed elderduck. One of the most delightful fragrant pillows is one filled with the dried leaves of the sweet fern. They should be thoroughly dried and arranged as a sachet at the back of a down pillow, or between two layers of down. No pillow brings to mind more gratefully the balmy fragrance of woodland. A useful pillow, valuable in the sick room is a small pillow of sea sand. Gather as much clean white sea sandas you will need for the purpose. Fill a

soft flannel bag about 12 inches square with this sand. It is a good plan to have a second cover over the bag, so it can be removed and washed occasionally. In case of earaches and various ills requiring a hot bag heat this bag of sand. It clings to the curves of the face or form, and is more flexible and agreeable than the familiar bag of hot water. It also retains the heat much longer.—Tribune.

Making Children's Underwaists.

I used to be much troubled, writes Clara S. Everts in the *Rural New Yorker*, by the children's underwaists tearing crossways under the arm, where it was almost impossible to repair them without another tear coming above or below. When making the waists, before they were finished, I stitched a straight strip of muslin two inches wide on over the under-arm seam, extending from armhole to waist line; and it was then impossible for the waists to tear. However, that threw the strain around the armhole, and after a few weeks' wear they began to tear there, and were almost as hard to repair satisfactorily as the old ones had been.

Then when new ones were to be made I cut a facing just like the upper part of the waist, extending down an inch below the armhole; sewed this all around the neck, turned and stitched it on the other side, and then faced around the armhole as usual, stitching the facing next the edge for greater strength. When putting on the facing around the bottom, I inserted an extra piece of four thicknesses where the buttons belong, and now we do not have to make any repairs on the underwaists, for the places where the strain comes are so strengthened that they will hold until the rest of the waist is worn out. New ones are made only every eighteen months or two years, instead of twice a year, as formerly.

To recapitulate: A strip stitched over the under-arm seam; a facing extending to below the armhole makes the material double where all the strain comes. Extra thicknesses are added where the buttons come, so that the buttons, if well sewed on with coarse thread, will not come off. While it takes about five inches more material, and perhaps an hour more time to make, no after repairing of any kind is necessary, thus saving much time, trouble and worry.

Detective Rays.

Elizabeth Banks, a journalistic writer in England, relates in a London paper some recent experiments with the Roentgen rays. This is the account:

"She had taken her pocket-book to be photographed under this process, in order to see whether the picture would reveal the presence of the coins within it. This it did; and as she was counting the disks through the leather, she perceived a small black point of familiar outlines. Then she exclaimed:

"'I have found my ruby!'"

"Opening the pocket-book, she searched in the place indicated by the black point on the photograph, and there, tucked in between two folds of leather, she discovered a small ruby which she had lost some time before, and could nowhere find.

"It had slipped from a ring which she wore at a moment when she was taking something from the pocket-book, and had glided in between two thicknesses of leather. There its presence was altogether unsuspected, and would have remained so until after the pocket-book was worn out and discarded if this extraordinary method of photography had not revealed it."

It Does Not Pay.

Don't overwork. As business requires a clear intellect and good judgment to make it a success, these requirements are not likely to be met by those who attempt to master them with fatigued and tired-out brains. Therefore, it follows that the need for recreation is imperative. It may be but a change of thought brought about by the perusal of an interesting book, but nevertheless it serves the purpose well. This thinking business, talking business, eating and sleeping with business will be mighty apt to bring about the loss of life and business, as the human brain is not made of elastic that never gets stringy, nor is the human form made of such material as to be able to resist whatever inroads may be made upon it. A man whose nerves are strung up to their highest tension is not capable of studying the best interests or giving the best service. Little things that would otherwise not be noticed prove an irritant.

Amusing Advertisements.

A London periodical recently offered a prize for the best collection of unintentionally amusing advertisements. Here is a part of one list. It embodies illustrations of the curious effect which the misplacing of a comma, or of a word or two, often has upon the meaning of a sentence: "Annual sale now going on. Don't go elsewhere to be cheated—come in here." "A lady wants to sell her piano, as she is going abroad in a strong iron frame." "Wanted, a room for two gentlemen about thirty feet long and twenty feet broad." "Lost, a collie dog by a man on Saturday answering to Jim with a brass collar around his neck and a muzzle." "Wanted, by a respectable girl, her passage to New York; willing to take care of children and a good sailor." "Respectable widow wants washing for Tuesday." "For sale a pianoforte, the property of a musician with carved legs." "M. Brown, furrier, begs to announce that he will make up gowns, capes, etc., for ladies out of their own skin." "A boy wanted who can open oysters with a reference." "Bulldog for sale, will eat anything; very fond of children." "Wanted, an organist and a boy to blow the same." "Wanted, a boy to be partly outside and partly behind the counter." "Lost, near Highgate archway, an umbrella belonging to a gentleman with a bent rib and a bone handle." "Widow in comfortable circumstances wishes to marry two sons." "To be disposed of, a mail phaeton, the property of a gentleman with a movable head-piece as good as new."

Chaff.

If you would get money, raise thyme, for time is money.

It does not follow because a gardener is growing sage that he is becoming wise.

If the bicycle fever continues to spread, marriage will become a thing of the past. The women will all be spinsters.

Professor: "What kind of a noun is 'kiss'—common or proper?" Miss Vassar: "It becomes common when it ceases to be proper."

Miss Scraggs: "Yes, once when I was out alone on a dark night I saw a man, and, oh, my, how I ran!" Little Willie: "And did you catch him, Miss Scraggs?"

Magistrate: "If you were innocent, why did you run away the moment the policeman appeared?" Pat: "Becaze, yer honor, thim cops do be always arristin' the wrong man."

Tourist: "So that is the oldest inhabitant? One hundred and four years old! No wonder you are proud of him." Native: "I dunno; he ain't done nothin' in this here place 'cept grow old, an' it's took him a sight o' time to do that!"

We begin to hear of many disastrous explosions about this time of year. The wintry blast is already blowing up the valleys.

Client: "Good morning, Mr. Swellplead. I've just received your bill for getting me off in that assault and battery case the other day." Mr. Swellplead: "Ah, yes, to be sure. Any further information I can give you about it?" Client: "Yes. I'd like to know if I can change my mind and go to jail instead."

DOMESTIC ECONOMY.

Recipes.

Browned Wheat Biscuit.—The Boston wheat biscuit, heated and browned in the oven, then moistened with hot milk and served with sugar and cream, makes a delicious and appetizing breakfast dish.

Radish and Cucumber Salad.—Select small red radishes; cut into thin slices and soak in cold water for an hour; also soak the cucumbers in cold water, but do not add salt to either. At serving time drain both, put them into the chopping tray, and chop quickly. Arrange lettuce or cress in the salad dish, and put over this the chopped mixture. Pour over four tablespoonfuls of salad oil, and then a tablespoonful of lemon juice and a little onion juice. Season with salt and pepper and serve at once.

A "Box Stew."—For the stew take two gills of cream, one gill of milk, one gill of oyster juice, three ounces of prime butter, a good sized dash of salt, half teaspoonfull of pepper and one dozen good-sized oysters; whip the butter to a cream, add the cream, milk and oyster juice and whip again; put into a saucepan, let come to a boil, immediately raise from the fire and add the oysters, and let boil up just once and pour into warm oyster bowl. Sift over the top powdered wafers and garnish with bits of butter. The oyster retains its plumpness when stewed in this manner. Sprinkle a little lemon juice over the sifted wafers.

Apple Dumplings.—Quarter and core after peeling one apple for each dumpling, then put the parts together with sugar in the middle. Envelop each apple in pie crust, and if they are to be baked set them in a pan like biscuits; if boiled, put each dumpling in a cloth and tie securely, leaving room for the dumpling to swell a little. After boiling one hour turn out and serve with sauce. In putting the crust around the dumpling care is needed to avoid too much overlapping. Little bags crochetted of very coarse tidy cotton, and drawn up when finished with stout cord, are particularly nice for boiling dumplings in.

A Meat Left-Over.—The recipe requires one-half pound of cold meat or fowl. Chop the meat fine and mix with it two tablespoonfuls of cream, a tablespoonful of chopped parsley and paprika to taste. This mixture is to be imbedded in a jelly made in the following way: Measure an ounce of gelatine, and let it stand until soft in four tablespoonfuls of cold water. Put a pint of cold water in a saucepan, and add to it a slice of onion, a few leaves of celery, a bay leaf and a clove. When the water boils strain it over the gelatine, season moderately with salt, and add a small teaspoonful of beef extract. When the liquid begins to thicken pour half of it in a small mould or deep dish or bowl. Make the meat mixture into a flat layer, somewhat smaller than the size of the mould, put it on the jelly and spread evenly. Then pour over it the remainder of the jelly. When stiff turn the contents of the mould out on a bed of lettuce and pass with it a mayonnaise dressing. Any delicate fish that is not very oily may be served in the same way.

Hints to Housekeepers.

It is positively asserted that to drink a half pint of hot milk or hot water will have the effect of producing sleep in eight cases out of ten.

In making green apple sauce, pit a few dates, cut them into quarters, and add them to the sauce just before removing from the fire. They will be a great improvement to the sauce.

It is said if camphor gum is put in the drawers in which silver is kept that is but seldom used that the camphor will prevent the silver from becoming tarnished.

The average maid needs to be taught that the washing of china and glass is more of an art than she realizes. The dishes should be cleaned with a piece of bread crust instead of the usual knife, which will scratch fine dishes. Neatly pile them together before preparing the water, and then the work does not appear to be a burden.

It would be much more economical if the supply of laundry soap for the coming winter is purchased now, the bars cut into short lengths and piled upon the storeroom or high pantry shelves, leaving a space between each piece. The soap will then harden so that, when used, it will not waste as quickly.

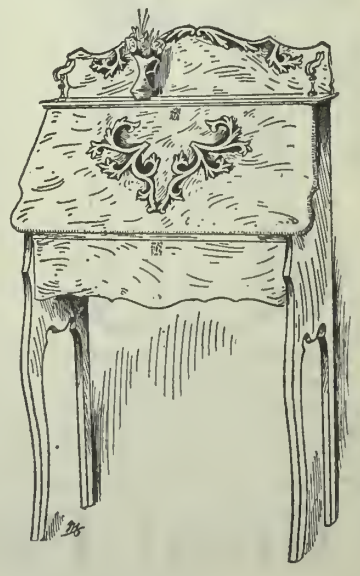
To keep a jacket in good shape it should be kept on a hanger when not in use. If it is hung by a loop at the back of the neck, it will soon give the garment a dragged appearance. If loops are used they should be at the armhole and the two ends of the loops fastened together, not having a two-inch space, as is a common custom. Then hang the jacket upon two hooks.

A medium-sized paper pad with a lead pencil attached hung over a kitchen table will be found of great convenience. If articles needed are written down upon this pad they will not be overlooked. When the housewife starts for market the outside slip can be pulled off and taken with her instead of her trusting to her memory, with the danger of forgetting some simple but most important article.

The pretty and inexpensive bamboo furniture so much used now requires to be treated differently from the ordinary wooden furniture. As bamboo is liable to crack and come apart, it must be fed so as to counteract the ill effects of dryness in the room. The furniture should be exposed to the air whenever possible. Do not place too near a fire, and it should be rubbed regularly with equal parts of linseed oil and turpentine applied with a flannel and then rubbed with a soft cloth. An occasional wash in cold water, followed by a thorough drying, is good for bamboo furniture.

We want you to know about our store.

We've a catalogue, over 100 pages, full of pretty pictures (costs us 30c. each, mailed,) and we'll send you one, free, if you'll say you want it.



Here's a price hint:

Parlor writing-desk, $7.
Solid oak, neatly carved. Mahogany color if you'd rather have it.
Roomy: large drawer below desk-part, numerous pigeon-holes and small drawers on the inside.

The catalogue is full of just such tempting offerings as this. You'd better have it.

California Furniture Company.
(N. P. COLE & CO.)
117 Geary St.,
San Francisco.

Seasonable and Attractive Cloaks.

A MOTHER HUBBARD CLOAK.
1019—Ruth Cloak.
Sizes for 4 and 6 Years.

Novelty goods in a mixture of green and blue, with golden brown, is the fabric of this graceful and becoming cloak. It is a simple "Mother Hubbard" in shape, the full skirt being suspended in box-plaits from a shallow yoke, and the back is like the front. For growing children it must always be a popular shape, for so little fitting is required. The collar, cuffs and straps which band the yoke and sleeves are of green velvet braided with fancy soutache, and the cloak is lined with changeable silk.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

A BECOMING RAIN-CLOAK.
1013—Gerald Rain-Cloak.
Sizes—Medium and Large.

A becoming rain-cloak is a very necessary part of every woman's wardrobe and is generally recognized for its usefulness. Our new pattern is a conservative, standard mode, which will always look well. The long cloak is sleeveless, loose in front, and fitted trimly in the back and under the arms. The double-breasted cape affords considerable warmth and protection when closed, and when open hangs with easy grace. Cravenette, which can be had in attractive browns and grays, as well as black and blue, is the most desirable fabric for these cloaks, but there are also many half-repellent cloths in attractive mixtures and wide-awake storm serges. Cloaking cloths in various weights are also used. The popular finish is machine stitching.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

Tricks of Ancient Gold Workers.

There is a papyrus which gives recipes for various alloys used in the manufacture of cups and vases, for making gold and silver ink, for gilding and silvering, and for testing the purity of precious metals. Other recipes teach the method of falsifying them by adding baser metals—an operation called diplosis, or doubling, for the mass of gold or silver was doubled, while the color remained unchanged, and as the compiler of the material remarks, a skilled workman would find it difficult, or even impossible, to detect the fraud. The recipes which recur most frequently describe various modes of preparing asem, a word which originally meant a natural alloy of gold and silver known to the Greeks as electron. It was at first looked upon as a distinct metal, was considered sacred to Jupiter, and was designated by the sign of that planet, but at a later period the name was applied to all alloys, and M. Berthelot remarks that in this fact seems to lie the explanation of the origin of alchemy. Both gold and silver could be extracted from genuine asem, and it seemed as though it could be changed at will of the operator into either one or the other; it could also be made artificially by mingling gold and silver, or closely imitated by some of the numerous alloys, eleven or twelve varieties of which are described in the papyrus of Leyden.

How's This?

We offer One Hundred Dollars Reward for any case of Catarrh that cannot be cured by Hall's Catarrh Cure.

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WALDING, KINNAN & MARVIN, Wholesale Druggists, Toledo, Ohio.

Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Price 75c. per bottle. Sold by all Druggists. Testimonials free.

Hall's Family Pills are the best.

—The Board of Regents of the State University have decided to locate the Wilmerding School, for teaching boys useful trades, in San Francisco. Of the bequest of $400,000, it is estimated that $100,000 will be required for grounds and buildings, leaving $300,000 for an endowment fund.

"BROWN'S BRONCHIAL TROCHES" are a simple and convenient remedy for Bronchial Affections and Coughs. Carry them in your pocket.

—The California salt business is still extensive. The bulk of the salt comes from the salt ponds on the eastern shore of San Francisco bay, in Alameda county, where last year it amounted to 48,810 tons, valued at $114,575. San Bernardino produces rock salt which is remarkably pure and the deposits are considered inexhaustible.

Compressed Air on a Warship.

The new United States monitor Terror is the only vessel in the navies of the world in which pneumatic power is applied for turning the turrets, working the guns, steering the ship, etc. The other monitors have hydraulic machinery for their turrets and guns, and are steered by steam. The Terror is therefore a practical experiment, whose success may lead to far wider use of the pneumatic principle.

The Terror has two engines for compressing the air—one situated in the hold near the forward turret and the other on the berth deck near the after turret. Either of these, singly, can supply sufficient air, at a pressure of 125 feet per square inch, to operate both turrets, including the guns—a total weight of nearly 500 tons. The compressor takes its supply of air from the chamber in which the engine stands, and compresses it in two cylinders, sending it also through two condensing cylinders, where it is cooled by circulating sea water.

PRESIDENT CLEVELAND will this month formally open at Philadelphia the most remarkable institution of its kind in existence—a museum which is designed to contain an assemblage of the natural and manufactured products of all countries of the world. Its object is to stimulate commerce and boom American trade, particularly with South America and Africa. All parts of the United States are interested in the enterprise, to which contributions have been made in one shape or another by cities north, south, east and west. The idea is that anybody who has anything to sell shall be enabled to find out offhand just where and how it is wanted, and the best way to seek the purchasers anywhere on the globe.

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CATALOGUE ON APPLICATION.

Cost of Labor Wars.

While it is true that an industry must prosper or decline as a whole, and that all engaged in the industry must share in the results, it is also true that there must be disputes relative to the exact share for the division between the parties interested.

The tenth annual report of the United States Labor Commissioner makes a detailed report on the subject of "Strikes and Lockouts." The report gives the statistics covering a period of thirteen and a half years from 1881 to June 30, 1894. During that time there is a record of 14,389 strikes in 69,166 establishments, involving 3,714,231 employes, which, with lockouts in 6067 establishments involving 449,927 employes, makes a total of 20,456 disturbances, involving 4,164,158 employes.

The amount lost to the employes in wages by these strikes was $163,807,657, while labor organizations and others contributed $10,914,406, making a total loss to labor of $174,722,663. The lockouts involved a loss in wages of $26,685,516, with assistance rendered of $2,524,298, making a total loss of $29,200,814. Combined, the average loss was $2532 for each establishment, of $47 for each person, making the total of $190,493,173 in all.

An estimate of the loss to employers is given with a total of $82,589,786 in strikes and $12.235,451 in lockouts, making $94,825,237. As only about 45 per cent of the strikes were successful, more than half this vast sum was a positive loss to labor, and the whole may be considered as lost beyond recovery to the industries involved. All this only goes to show the supreme folly of arraying interests against each other that should be combined. There are, no doubt, some cases where an actual strike is the only way to test the matter of wages, but such cases are rare indeed, and with an intelligent understanding of the situation this extreme resort is seldom necessary. There are always limits beyond which no employer can go in paying wages, and these limits are determined at the prices at which the products are sold. Labor leaders are, as a rule, too eager to promote strikes without regard to considerations or consequences, and they encourage the idea that employers can always pay any amount that is asked. What is needed is more intelligence and a better understanding of the conditions, as well as the mutual relations, of the interests involved. Disputes can then be settled without resort to such costly and destructive methods

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING NOVEMBER 10, 1896.

571,060.—MOLD PATTERN—M. A. Baker, Los Angeles, Cal.
571,302.—BICYCLE—L. DeRome, S. F.
571,086.—PUMP POWER—Fulton & Ames, Galt, Cal.
571,115.—AIR BRAKE—F. L. Guillemet, S. F.
571,116.—AIR BRAKE—F. L. Guillemet, S. F.
571,320.—CAR FENDER—Holloway & Starkweather, Los Alamos, Cal.
570,937.—STOVE LID—G. B. Littlefield, S. F.
571,275.—SCREEN FOR URINALS—Maxwell & Gorman, Los Angeles, Cal.
571,009.—REGISTER—H. S. McCormick, Oakland, Cal.
571,054.—SAFETY PIN—A. T. Snell, Santa Barbara, Cal.
571,102.—METALLIC TOOTH CROWN—L. L. White, Oakland, Cal.

NOTE.—Copies of U. S. and Foreign patents furnished by Dewey & Co. in the shortest time possible by mail or telegraphic order). American and Foreign patents obtained, and general patent business for Pacific Coast inventors transacted with perfect security, at reasonable rates, and in the shortest possible time.

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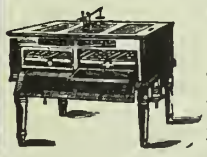
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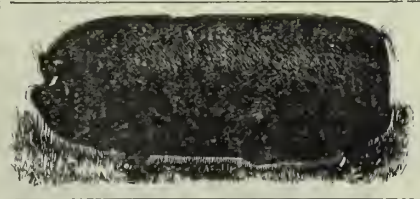
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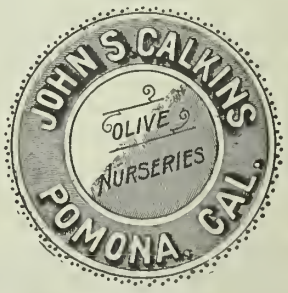

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NEW FRUITS.—Wickson, Red June, Willard, Normand, Orient, Bailey, Strawberry, Grand Duke, California Red, and other new plums.
Ophir Apricot—Large, beautiful and extra early.
Dollar Strawberry—The best berry ever grown.
All stock of first quality, clean and healthy.
For prices, address
C. M. SILVA & SON,
Lincoln,.....California

Pneumatic Tubes in the Postal Service.

The Postmaster General's report of the railway mail service for the last fiscal year shows that the expenditures for mail transportation, inland and foreign, was $46,523,932, an increase of over $1,500,000 over the previous year. Mail service to the gold regions of Alaska has been established for the benefit of miners and others there. The pneumatic tube service, which it was desired to establish in Philadelphia, New York and Boston, has not been developed as rapidly as it was hoped, on account of the enormous expense. The permission of the bridge company has been obtained for the construction of a tube between the New York and Brooklyn postoffices, crossing the Brooklyn bridge. The Boston matter is practically settled, as far as the permission of the city council and other interested parties is concerned, and only awaits the signature of the Mayor. It is also hoped that a much greater pneumatic tube service is within the near reach of the department in New York city. The postal service of the United States is far behind that of the leading countries of the old world. This is mainly due to the large extent of territory that is covered, from much of which very little revenue comes in proportion to the outlay. In London and other large cities for many years the pneumatic tube has been in use and has had much to do with the making of the postal system there a marvel to visiting Americans. Generally speaking, a letter may be dropped in one part of London addressed to a point four or five miles away and it will be delivered sooner than a special messenger could cover the distance.

The Government's Coast Defense Guns.

Secretary Lamont will ask for $52,975,368 of appropriations for the War Department for the fiscal year beginning July 1, 1897. By that time the Government will have completed coast defenses armed with thirteen 12-inch, thirty-seven 10-inch, eight 8-inch and four rapid fire guns and eighty-12-inch mortars. The extreme range of an 8-inch gun is nine and one-half miles; of a 10-inch gun, eleven and one-half miles, and of a 12-inch gun, thirteen miles. The 12-inch breech-loading mortar fires a projectile weighing 1000 pounds and attains a range of five miles for the cast iron mortar and of six miles for the all-steel mortar. Four out of five shots fired from an 8-inch gun at a range of one mile struck within a rectangle of 20 inches by 21 inches. Of eight shots fired at a range of 3000 yards, six struck within an area of 18 inches by 48 inches.

The 12-inch breech-loading mortar was fired at a range of 2464 yards at a target which represented the deck of the cruiser Philadelphia, lying broadside on, across which, at right angles, was the deck of the same ship lying bow on. In the broadside target there were five hits in five shots; in the bow on target there were three hits in five shots. All the shots struck within a rectangle of 8 yards by 27 yards.

There are now completed sixty-one 8-inch, fifty-six 10-inch, twenty-one 12-inch guns and eighty 12-inch mortars, and in progress of construction twenty-seven 8-inch, fifty-six 10-inch, fifty 12-inch guns and sixty-six 12-inch mortars.

The first notice of the barrel found in ancient literature occurs in the works of Pliny, in the first century of the Christian era. When he made his first trip into the Alps, he found the natives using casks and barrels. It must have been a new thing to Pliny, for he noticed it as a novelty. The Romans learned the coopers' art from the inhabitants of the Alps. They must have been quite skillful, these rude mountaineers, for they made barrels that were tight enough to hold liquids. The Romans improved upon the art.

A Surprising Admission.

PHYSICIANS AND DRUGGISTS TALK ABOUT PROPRIETARY MEDICINES.

From the Ledger, Tacoma, Wash.

A correspondent of the *Ledger* standing in the drug store of Dean & Clark, Chehalis, was recently witness to an interesting discussion as to the merits of Dr. Williams' Pink Pills. Mr. Dean contended they had the greatest merit, and a physician of the party remarked that many cases had come under his own observation where Pink Pills had accomplished splendid cures—a surprising admission, coming, as it did, from a regular practitioner. As some of the parties seemed to question the genuineness of the published testimonials, Mr. Dean said:

"I can name half a dozen of my customers who have been cured by them of various ills, and who constantly send me new customers for them."

Mr. Dean referred the reporter especially to Mr. Harry Frazer. He is a resident of Centralia and is chief of the Centralia fire department, a leading secret society man, and proprietor of a large livery barn at Centralia and of the Chehalis-Centralia stage line.

"What did Dr. Williams' Pink Pills do for you, Mr. Frazer?" inquired the reporter. This inquiry was made with a certain degree of hesitation, for if there is a round and rubicund picture of health on the coast it is Mr. Fraser himself.

"Cured me of rheumatism," was the reply.

"I look like a healthy man," continued Mr. Fraser, "and I am. But I have not always been so. I have spent days of torture and sleepless nights of agony with rheumatism."

"And Dr. Williams' Pink Pills cured you?"

"They cured me. I don't know anything about the philosophy of it, but I do know that when I got down with rheumatism I employed a skilled physician, and he did everything in his power to help me. But I got no relief. He admitted he could do nothing for me. Then a friend recommended Dr. William's Pink Pills. I sent to the nearest drug store for a box and from the hour I began to take them I commenced to improve. In a short time, after taking three boxes, I was a well man again. Since that time I have had one light attack of rheumatism, brought on by the exposure which is necessary in my business, but in a short time, with the aid of Pink Pills, I was able to rid myself of the disease."

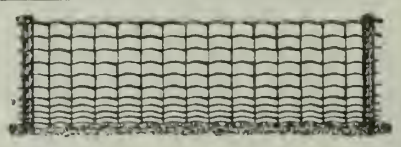
Mr. Fraser was asked if he had any objection to making an affidavit regarding the facts for publication. He replied that he would do so cheerfully, and, going to the office of John M. Kepner, a notary public, he made the above statement under oath.

Subscribed and sworn to before me this 8th day of June, 1896.

J. M. KEPNER, *Notary Public.*

The article was afterward shown to the members of the party who had the discussion, and while the doubters acknowledged the genuineness of the case they were not entirely convinced, and Mr. Dean promised to show them some more cases soon equally as good and strong.

Dr. Williams' Pink Pills for Pale People contain, in a condensed form, all the elements necessary to give new life and richness to the blood and restore shattered nerves. They are an unfailing specific for such diseases, as locomotor ataxia, partial paralysis, St. Vitus' dance, sciatica, neuralgia, rheumatism, nervous headache, the after effect of la grippe, palpitation of the heart, pale and sallow complexions, all forms of weakness either in male or female. Pink Pills are sold by all dealers, or will be sent postpaid on receipt of price, 50 cents a box, or six boxes for $2.50 (they are never sold in bulk or by the 100), by addressing Dr. Williams' Medicine Company, Schenectady, N. Y.



Our Fair Exhibits.

With five car loads of wild animals, we have given free shows at the leading State and District Fairs. We thus furnish instruction, amusement, and **proof that the Page is the best.** Several applications are in for next year's exhibit.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

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EXCELSIOR SEED SOWER.

FOR SALE BY

L. C. MOREHOUSE, San Leandro, Cal.

WM. H. GRAY, Gen'l Agent.

NAVEL ORANGE GROVES.

Owing to old age and inability to work, I would now sell a half interest in two or three Navel Orange Groves, near town, **at much less than their value and on very easy terms** to the right kind of a younger man, to work and manage them. An unequaled opportunity for an industrious man to secure a competence without risk. Would now sell a fine bearing grove near town at but one-half of its present value and on unusually favorable terms. Address

GEN. J. H. FOUNTAIN, Riverside, Cal.

One-third of all Harvesting Machinery in use is made by the McCormick Co. of Chicago.

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—WITH—

GILMAN'S PATENT TULE TREE PROTECTOR.

PATENTED AUGUST 1, 1893.

FIRST PRIZE—Medal and Diploma—California Midwinter International Exposition.

Cheapest, best and only one to protect trees and vines from frost, sunburn, rabbits, squirrels, borers and other tree pests.

For testimonials from parties who are using them, send for descriptive circulars.

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THE STOCKTON REVERSIBLE GANG PLOW.

H. C. SHAW PLOW WORKS, State Agents,

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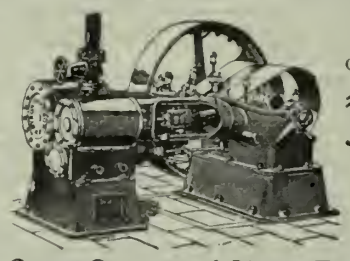

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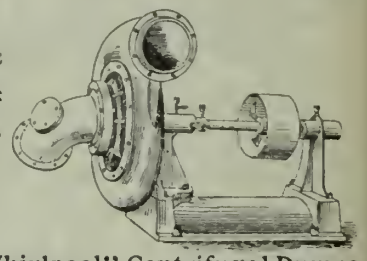
Jackson's GAS —AND— OIL ENGINES.



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For Irrigation, Drainage, Dredging, Mining, Etc. Capacities from 50 to 50,000 Gallons Per Minute.

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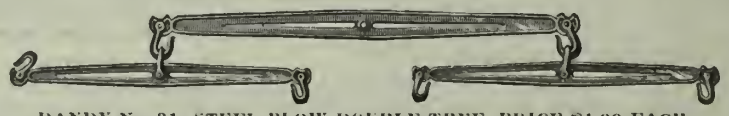
BARGAINS IN STEEL DOUBLE TREES.



DANDY No. 31—STEEL PLOW DOUBLE TREE, PRICE $1.00 EACH.
DANDY—STEEL PLOW SINGLE TREE..... " .35 "

Buy before they are all gone.

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GOPHERS, SQUIRRELS

and other destructive rodents

EXTERMINATED WITH

Pasteur Virus.

The rodents contract a contagious disease which rapidly exterminates them. The virus is harmless to man and domestic animals.

PASTEUR VACCINE CO., Ltd.

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BE SURE AND WORK THE HORSE while you are treating his shoulders with **Bickmore's Gall Cure.** For collar & harness Galls, Cuts, Scratches, Grease Heel and Speed Cracks. We guarantee a cure under these conditions. Equally good for Chapped or Cracked Teats on cows. Ask your dealer for it. If not there send 10c for trial sample. Enough to cure one horse. **BICKMORE GALL CURE CO.** Box 308, **OLD TOWN, ME.**

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COLD WATER PAINT.

A DRY POWDER, requiring only the addition of COLD WATER to be ready for instant use.

Takes the place of OIL PAINT. Its covering capacity is fully 100 per cent greater.

It's durable, and will not scale off.

CHEAPER AND WHITER THAN WHITEWASH.

Easily applied. Furnished in White and in FIFTEEN DIFFERENT COLORS.

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TREE WASH, OLIVE DIP.

"Greenbank" Powdered Caustic Soda and Pure Potash.

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Patent Centrifugal, Steam and Power Pumping Machinery, Simplest, Cheapest and Best. Orchard Trucks, Grape Crushers, Wine Presses, Wine Filters. Up-to-Date Repair Shop for All Kinds of Pumps and Other Machinery.

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For deep or shallow wells; power, windmill, hand Pumps; valves can be removed without taking pump out of the well. With my 5-in. double-acting deep well Power Pump I guarantee 10,000 gallons per hour. Send for circular. A. T. AMES, Galt, Cal.

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Open All Year. : A. VAN DER NAILLEN, Pres't.

Assaying of Ores, $25; Bullion and Chlorination Assay, $25; Blowpipe Assay, $10. Full course of assaying, $50. Established 1864. Send for Circular.

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Nov. 24, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Tuesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	160,140	2,681,297	1,953,301
Wheat, ctls	453,568	6,318,934	4,278,604
Barley, ctls	167,059	3,310,156	1,776,536
Oats, ctls	17,900	283,585	315,032
Corn, ctls	12,575	77,330	67,796
Rye, ctls	1,535	108,366	14,862
Beans, sks	15,755	367,737	224,912
Potatoes, sks	30,646	461,265	447,700
Onions, sks	3,426	70,279	58,838
Hay, tons	3,215	73,900	72,186
Wool, bales	2,445	31,556	36,617
Hops, bales	402	6,037	8,014

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	154,220	2,030,324	1,344,119
Wheat, ctls	467,065	5,953,377	4,296,353
Barley, ctls	209,202	2,561,150	1,233,276
Oats, ctls	222	11,679	9,838
Corn, ctls	213	5,068	8,897
Beans, sks	22,477	187,782	179,386
Hay, bales	994	21,221	19,830
Wool, lbs	....	3,488,112	7,666,096
Hops, lbs	31,945	429,399	672,670
Honey, cases	201	1,425	5,290
Potatoes, pkgs	396	34,656	57,235

Grain Freights and Charters.

There is no improvement to note in the condition of the market for ocean freights and grain charters, as viewed from the side of ship owners, and there is no material change for the better likely to be experienced for some months to come. There is a liberal supply of ships suitable for grain loading as compared with probable requirements, and with wheat not offering in heavy quantity and in active request for export, it would be phenomenal to have freights develop any particular firmness. Charter rates now obtainable will hardly cover ships' running expenses, and when vessels cease coming in under engagement there may be some recovery in rates, as many owners will prefer to have their ships idle rather than have them run without profit. The quotable range on iron ships to Cork, U. K., for orders, may be stated at 18s 9d to £1 1s 3d, with latter figure not readily obtainable.

Charters.

British steamer Progressist, 2025 tons, wheat to St. Vincent for orders; owners' account.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive.
1896	81,611	65,916	204,207
1895	85,830	34,346	232,774

Flour.

There have been no noteworthy fluctuations in values for flour since previous review. The general tone was not so strong as preceding week, owing to wheat ruling less in sellers' favor; but prices for flour had not been marked up on a parity with the highest figures established for wheat, so the declines in the latter did not warrant any quotable reductions in flour values from the figures last stated. There are no large stocks of flour in this center, either of local or outside mills.

Superfine, lower grades	$3 00@3 25
Superfine, good to choice	3 30@3 50
Country grades, extras	4 25@4 50
Choice and extra choice	4 50@4 75
Fancy brands, jobbing	4 75@5 00
Oregon, Bakers' extra	4 25@4 50
Walla Walla, Bakers' extra	4 25@4 50

Wheat.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	5s 3d@5s 4d.	7s 4d@7s 5d.
Freight rates,	26¼@27½s.	18¾@21s.
Local market,	$0.97½@$1.00	$1.47½@1.52½

The prices above are for spot lots of standard No. 1 California in Liverpool, and for good to choice shipping in this city.

The speculative market for wheat broke badly in Eastern and foreign centers, as well as here, during the latter part of last week. For the three days ended on Saturday last December wheat declined on San Francisco Board nearly 10c, and in May wheat there was in same time a drop of nearly 14c, but there was a recovery before the close of Saturday of about 1c in December, and about 4½c in May. The latter option is now naturally receiving the preference at relatively the higher figures, owing to the fact that December option will soon be the equivalent of spot wheat, and will in consequence cease to be dealt in on speculative account after the 1st prox. While spot values were unsettled, owing to the declines in speculative centers, it was not possible to buy wheat in the open market or by sample at the same declines experienced in Call Board prices. Rainy weather in India was cited as the cause of the decline, but manipulations of the bears on the different grain exchanges was probably as much the cause as any outside influence. No matter what the coming crop may prove in India, it is altogether improbable that wheat will recede to unprofitably low figures on this coast, either during the balance of the present or the whole of next season. Australia is now in her harvest time, and the crop in that country is a failure this year, much the same as last. About six ships have been recently chartered to load wheat here for Australia. Even if India has a fair yield next spring, she will not be likely after recent experience to let the crop go at low figures. There will be a much larger acreage seeded to wheat on this coast for 1897 crop than for several years past, and prospects at this early date are favorable both for a good yield and good prices, although values may go under the range which has been lately current. Early this week there was an improved tone, the market closing firm Tuesday at the quotations, with a decided recovery in values reported in both Eastern and foreign centers.

California Milling	$1 47½@1 55
Cal. No. 1 shipping, alongside	1 47½@1 50
Oregon Valley	1 45 @1 50
Walla Walla Blue Stem	1 37½@1 55
Walla Walla Club	1 37½@1 47½

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, $1.47⅝@1.56¼.
May, 1897, delivery, $1.50@1.62⅞.

Tuesday, at regular noon session of Call Board, December wheat sold at ——@——; May, $1.54@1.55¾.

Barley.

Two ships cleared from this port for Great Britain at the close of last week with full cargoes of barley, the combined amount being 5523 tons, with a total valuation of $102,810. Shipments for the season to date foot up over 128,000 tons—a larger quantity than shown for corresponding time of any previous season. Market has not displayed much activity since last review, and part of the time presented a rather weak tone, the latter being in a great measure due to rainy weather, causing an encouraging outlook for coming crops. Quotable values for all descriptions have, however, remained tolerably close to the figures given in last review, with no very heavy offerings of any sort.

Feed, No. 1 to choice	86¼@88¾
Feed, fair to good	82½@85
Brewing, No. 1 to choice	90 @95
Chevalier, No. 1 to choice	1 05@1 15
Chevalier, No. 2	82½@90

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, 84@88c; May, 1897, delivery, 91@94⅞c.

Tuesday at regular noon session of the Call Board, December feed sold at 88c; May feed at 93⅛@94⅞c.

Oats.

There are arrivals of fair proportions from Washington, and also from Nebraska and Utah, but very few oats are being received from Oregon or from the interior of this State. Present offerings are mostly common to medium qualities of white oats. There are few black or red on market. Gray oats make a very limited showing. Surprise are almost wholly out of stock. Market remains firm.

White Oats, fancy feed	1 27½@1 32½
White, good to choice	1 17½@1 25
White, poor to fair	1 05 @1 15
Gray, common to choice	1 15 @1 25
Milling	1 22½@1 32½
Surprise, good to choice	1 30 @1 40
Black Russian	1 15 @1 30
Red	1 05 @1 20

Corn.

Market has not developed any very important changes since last issue. Large yellow is in most liberal supply, considerable of this variety having been lately imported from Nebraska. Large white is not offering in very heavy quantity, but the demand for some is decidedly slim. Small round yellow continues to be offered rather sparingly, and market for this variety favors sellers.

Large White, good to choice	85 @ 90
Large Yellow	85 @ 87½
Small Yellow	1 00 @1 05

Rye.

Supplies are of light volume but demand is not very brisk at full current rates.

Good to choice, new	1 07½@1 12½

Buckwheat.

Market is moderately firm for best qualities, although not materially higher than last quoted.

Good to choice	1 25 @1 30
Silverskin	1 30 @1 35

Beans.

The Eastern bean market is reported as follows by a leading New York authority, prices quoted being per bushel of 60 pounds:

The transportation lines have been almost arbitrary in their demands to have stocks moved from the docks, and these peremptory orders in connection with continued free arrivals caused strong pressure to sell and a consequent decline in nearly all varieties of beans. Demand from all sources has been light and the present position is such that unless receipts are checked considerably a further shrinkage in values will occur. New and old Marrow have come together and $1.40@1.50 is the selling rate at the close for choicest lots; the feeling is easy and the outside figure is extreme for wholesale business. Medium have fallen to $1.25 and it is difficult to interest buyers at that. Pea have been more plentiful than other kinds and a drop of 10c has occurred during the week; best lots can now be bought easily at $1.15. The limited export demand for Red Kidney has forced the price down to $1.45@1.50; two or three sales of choice new and old beans reported at the inside figure, but $1.50 is generally asked. Very few White Kidney offering, and feeling about steady. The market is still bare of Turtle Soup and values nominal; a moderate quantity is wanted and would sell well. Yellow Eye arriving sparingly, and are 5c higher. California Lady Washington have less inquiry and have declined, and Lima are also lower and very dull. Green peas quiet but steady, and Scotch held a shade firmer.

No heavy business has been done in beans in this center the past week, either for shipment or on local account. Values and the tone of the market have remained as last noted. To have purchased freely of any variety it would probably have been necessary to have paid a moderate advance on current rates, while if selling pressure had been exerted, it is doubtful if currrent quotations could have been realized. Stocks of Lady Washington and Pink were larger than of most other varieties, and prices for these inclined most in buyers' favor. Trading in Limas was mostly at southern coast points of production.

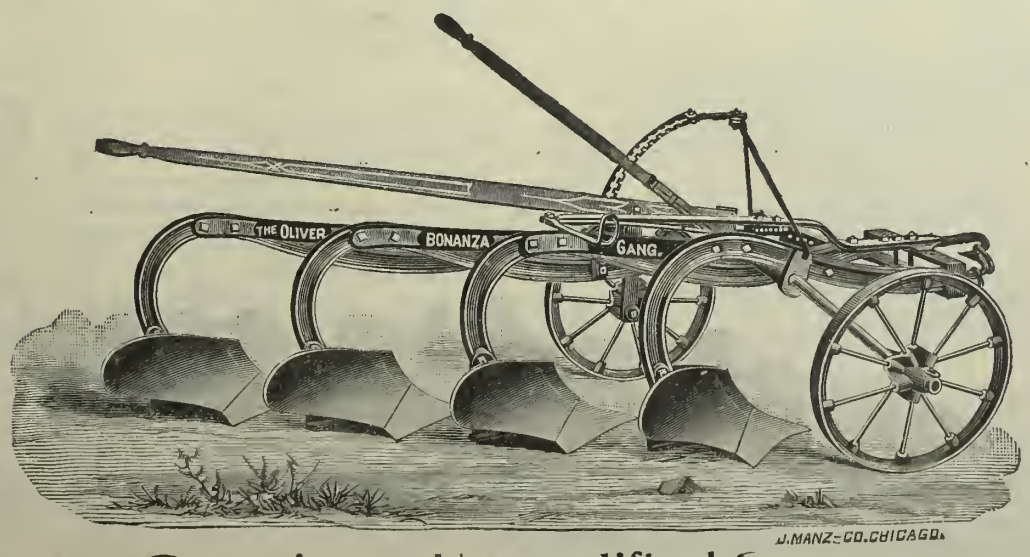
Pea, fair to good, 100 lbs	$1 40 @1 50
Small White, good to choice	1 30 @1 40
Lady Washington	1 20 @1 30
Butter, small	1 25 @1 40
Butter, large	1 40 @1 60
Pinks	1 00 @1 10
Bayos, good to choice	1 50 @1 60
Reds	1 25 @1 35
Red Kidneys	2 25 @2 50
Limas, good to choice	2 00 @2 15
Black-eye Beans	1 15 @1 30
Horse Beans	1 00 @1 10
Garbanzos, large	2 50 @2 75
Garbanzos, small	1 50 @1 75

Dried Peas.

The same quiet state of trade as previously

IN HARD TIMES AND
IN GOOD TIMES TIE TO SOMETHING RELIABLE.

3 or 4-Gang,
10-Inch.



Chilled or
Steel Bases.

Oliver's Bonanza Gang is an Unqualified Success.....
.....Without Question the Best of Its Class on the Market.
CALL ON OUR NEAREST AGENT FOR PRICES, OR ADDRESS
OLIVER CHILLED PLOW WORKS, 37 Market Street, San Francisco, Cal.

noted is still being experienced in this line. Offerings are not as a rule sufficiently choice to draw forth any special competition from buyers.

Green Peas, California	$1 15 @1 30
Niles Peas	1 10 @1 25

Hay and Straw.

The demand for hay is rather light, and the market is devoid of any especially encouraging feature for the selling interest. Stocks are almost certain to prove more than sufficient for requirements during the balance of the season. Values are not quotably lower, but sales at top figures are not of common occurrence. Straw is being offered at unchanged rates.

Wheat	8 00@11 00
Wheat and Oat	6 50@10 00
Oat	6 00@ 8 50
Barley	6 00@ 8 00
Clover	5 00@ 7 50
Stock Hay	4 50@ 5 50
Alfalfa, first cutting	4 50@ 5 50
Alfalfa, second cutting	6 00@ 7 00
Compressed	6 00@ 9 50
Straw, ₱ bale	35@ 45

Wool.

A moderate amount of business is doing in scoured wools on Eastern account, but trading in grease wools is light, these being held as a rule at higher figures than are justified by values current at manufacturing centers. Where attention is given to fleeces, it is confined to free wool of good, sound staple. Some purchases have been recently made in the interior at figures as much above the parity of values current here as local prices are above those ruling at Eastern manufacturing points.

SPRING.

Northern California free	— @—
Northern defective	— @—
San Joaquin Foothill, good to choice	— @—
San Joaquin, 12 months	— @—
San Joaquin and Southern, 6 months	— @—
Nevada, as to condition	7 @ 9
Oregon Valley, select	9½@11
Oregon Valley, low grade	8 @ 9½

FALL.

Humboldt and Mendocino	7 @ 9
Northern California free	7 @ 9
Northern defective	5½@ 7
Middle Counties free	6½@ 8
Middle counties defective	5½@ 6½
San Joaquin and Southern	3½@ 5

Hops.

Late mail advices furnish the following concerning the New York hop market:

Shipments abroad have been heavy again this week; part of these represented new business, but the major portion were previous purchases, most of which were going through direct either from this State or the Pacific coast. Appreciating the fact of a considerable shortage in their own crop, English operators have been securing supplies of our best hops and this has really been the basis for most of the improvement thus far recorded. Whether they will continue to buy at the advanced rates is not certain, but they seem rather less inclined to pay the prices that growers and dealers are now asking. The free exports have undoubtedly induced both the Eastern and Western brewers to buy more liberally, while dealers in all parts of the country have operated quite largely. Compared with last week, the volume of business on the local market has been somewhat less, but prices have made a further advance and the feeling is strong at the close. The gap between State and Pacific coast hops has widened, as the latter show far the best quality. The movement in 1895 and older growths continues very moderate, but there is a much more confident holding. Higher figures have been paid in the interior of this State, best growths of '96 crop commanding 11@12c, with reports of occasional sales higher. English advices are quite firm. From trustworthy sources we hear that this year's crop in England was £226,594 old duty.

Many growers on this coast and elsewhere abandoned their yards this season, on advice of dealers and on account of not being able to secure advances for picking and curing. Most of the hops cured were either contracted for or have since passed out of growers' hands. With this season's yield practically cornered, the market is now displaying considerable firmness. If all the hops grown had been picked, prices would be no better than they were early in the season. About the only way to grow hops and be safe is to make them a side issue, devoting only a small portion of the farm or ranch to this commodity. In such case the grower could better afford to take chances than by growing all hops and nothing else.

Fair to choice, 1896 crop	9 @13

Millstuffs.

Bran is in light supply and is higher than last noted. Middlings of high grade are scarce and favor sellers. Rolled Barley was offered at fully as easy figures as quoted a week ago. Prices for milled corn were without material change.

Bran, ₱ ton	12 00@14 00
Middlings	16 00@20 00
Barley, Rolled	18 00@19 00
Cornmeal	20 00@20 50
Cracked Corn	20 50@21 00

Seeds.

Market for Mustard Seed is showing steadiness, the greater portion of the last crop having been already shipped. Not much doing in flaxseed, most of the recent arrivals having been previously contracted for. Alfalfa is receiving a little more attention than for some time past, but continues to be offered at easy rates.

	Per ctl.
Mustard, Yellow	2 00@2 25
Mustard, Trieste Seed	3 00@3 25
Mustard, Wild Brown	2 25@2 50
Flax	1 30@1 50
	Per lb.
Canary	2¼@2¾
Rape	2¼@2½
Hemp	3¼@3½
Alfalfa, Utah	6¼@6½

Bags and Bagging.

There is no business of consequence to record in the grain bag market, values continuing nominally as last stated. Such trading as is in progress in bags and bagging of other descriptions is in the main within range of unchanged figures.

Grain bags, 22x36, spot	4½@—
Wool sacks, 4 lb	28 @—
Wool sacks, 3½ lb	26 @—
Gunnies	9 @—
Bean bags	4 @ 4¼
Fruit sacks, cotton	5½@ 7½

Hides, Pelts and Tallow.

No changes have been reported in values for hides since last review, but the market presents a generally firm tone, with a good demand at the rates current. Pelts were not very eagerly sought after, and did not incline particularly in sellers' favor. Tallow ruled steady.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	8 @ 8½	7 @ 7½
Medium Steers, 48 to 56 lbs	7 @ 7½	6 @ 6½
Light Steers, under 48 lbs	6 @ 6½	5 @ 5½
Heavy Cow Hides, over 50 lbs	6 @ 6½	5 @ 5½
Light Cow Hides, under 50 lbs	6 @ 6½	5 @ 5½
Wet Salted Kip	6 @ 7	5 @ 6
Wet Salted Veal	6 @ 7	5 @ 6
Wet Salted Calf	7 @ 8	6 @ 7
Dry Hides	— @13	— @10
Dry Kip and Veal, 11 to 16 lbs	— @10	— @ 8
Dry Calf, under 4 lbs	— @15	— @10

Horse Hides, large dry	75@ —
Horse Hides, large, wet salted	75@1 00
Horse Hides, medium	50@ —
Horse Hides, small	25@ —
Colts' Hides	25@ —
Pelts, long wool, per skin	50 @60
Pelts, medium, per skin	40 @50
Pelts, short wool, per skin	20 @35
Pelts, shearling, per skin	10 @15
Deer Skins, best summer	20 @25
Deer Skins, good medium	15 @20
Deer Skins, thin winter	7 @ 9
Elk Hides	7½@ 9
Tallow, good quality	3 @—
Tallow, No. 2	2½@—
Goat Skins, perfect	20 @35
Goat Skins, damaged	10 @20
Kid Skins	5 @—

Honey.

Market is very lightly stocked with water white extracted, and such is salable at full current quotations more promptly than are offerings of amber or dark honey at the lower figures noted for the latter. Comb is in moderate supply and other than choice white receives scarcely any attention. A shipment of 150 cases extracted was made the past week per sailing vessel to London.

White Comb, 1-lb frames	10 @—
Amber Comb	7½@ 9
Extracted, White Liquid	5½@ 6
Extracted, Light Amber	4½@ 5
Amber Colored and Candied	3¾@ 4¼
Dark Tule	2¾@ 3

Beeswax.

There are very limited stocks of this commodity, especially of desirable qualities, and the market is favorable to sellers.

Fair to choice, ₱ lb	25 @27½

Live Stock and Meats.

Hogs have been arriving a little more freely than packers could handle to advantage, and market consequently lacked firmness. Beef and mutton remained about as last quoted, supplies being sufficient for the existing demand.

Beef, 1st quality, dressed, net ₱ lb	5 @—
Beef, 2d quality	4 @ 4½
Beef, 3d quality	3½@—
Mutton—ewes, 4@5c; wethers	5 @5½
Hogs, hard grain fed, medium size, fat	3⅛@ 3¼
Hogs, large hard	3⅛@ 3¼
Hogs, soft and feeders	— @—
Hogs, country dressed	4 @—
Veal, small, ₱ lb	5 @ 6
Lamb, spring, ₱ lb	5 @ 6

Poultry.

Turkeys received the bulk of attention, as is invariably the case Thanksgiving time. Demand was mainly for dressed stock, retailers having little time on such occasions as this to take care of live turkeys. The inquiry for live birds was mainly for raffles, shooting matches and the like. Naturally not very many were required for the special purposes above named. Dressed turkeys arriving in season, and which were in good condition, brought as a rule tolerably firm figures. There was a moderate demand for fryers and broilers, extra large fat hens, also fat geese, likewise large ducks in prime condition. Market for choice poultry of nearly all kinds was rather firm.

Turkeys, dressed, per lb	16@ 18
Turkeys, live hens, ₱ lb	14@ 16
Turkeys, live gobblers	14@ 16
Hens, Cal., ₱ doz	4 00@5 00
Roosters, old	4 00@4 50
Roosters, young, (full-grown)	4 00@4 50
Fryers	3 25@3 50
Broilers, large	3 25@3 50
Broilers, small	2 75@3 25
Ducks, young, ₱ doz	4 00@5 00
Ducks, old	3 50@4 50
Geese, ₱ pair	1 25@—
Goslings, ₱ pair	1 50@1 75
Pigeons, Old, ₱ doz	1 00@—
Pigeons, Young	1 50@—

Butter.

While the market was not particularly firm, unless for a little select creamery, the absence of strenght was more attributable to the prospects of the near future than to any special excess of supplies of fresh at present. There is no disguising the fact that the recent liberal rains give an assurance of an abundance of green feed in a few months. Packed descriptions are still offering in tolerably liberal quantity, but values for the same remain fairly steady.

Creamery extras, ₱ lb	25 @—
Creamery firsts	23 @24
Creamery seconds	22 @23
Dairy select	22½@—
Dairy seconds	15 @17
Dairy, soft and weedy	— @—
Mixed store	11 @13
Creamery in tubs	16 @17
Pickled roll	16 @17
Dairy in tubs	15 @16
Firkin, Cal., choice to select	15 @16
Firkin, common to fair	11 @12½

Cheese.

Market is fully as firm as previously quoted. While supplies of all sorts are light, choice to select new cheese, of full cream and mild flavor, is especially in limited supply. As high as 12c is reported being realized in a small way for favorite marks going to special custom.

California fancy flat, new	10 @11
California, good to choice	9 @10
California, fair to good	8 @ 9
California, "Young Americas"	9½@12

Eggs.

Not many eggs have arrived from interior points this week, the very stormy weather part of the time and the holiday observances both interfering with forwarding. For choice to select eggs, uniformily large, white and clean, the market was very firm and is apt to continue so for two or three weeks yet. Pullets' eggs are still arriving in comparatively large quantity from some quarters, and are not receiving much attention, even at low figures, being wholly avoided by most particular buyers. Stocks of Eastern and local cold storage eggs are showing reduction, but there are still fair supplies of both.

California, select, large white and fresh	37½@40
California, select, irregular color & size	30 @35
California, good to choice store	25 @30
California, common to fair store	20 @24
Oregon, prime	— @—
Eastern, as to section and grading	24 @30
Eastern, seconds	16 @19
Duck eggs	25 @—

Vegetables.

There are few kinds now offering in quotable quantity, and it is the exception where there are large supplies of any sort. Onions now arriving are mostly under choice, and for such as are first-class in every respect the tendency of the market has been to more firmness. Changes of prices in other vegetables were in the main to a higher range.

Beans, Garden, ₱ lb	4@ 6
Beans, Lima, ₱ lb	—@ —
Cabbage, choice garden, ₱ 100	50@ 60
Cauliflower, ₱ doz	40@ 50
Cucumbers, Alameda, large box	25@ 40
Egg Plant, ₱ box	30@ 40
Garlic, ₱ lb	1½@ 2
Mushrooms, Buttons, ₱ lb	15@ 20
Mushrooms, Wild, ₱ lb	10@ 15
Okra, Green, ₱ box	40@ 65
Onions, Red, ₱ cental	—@ —
Onions, Yellow, good to choice	45@ 60
Peas, Green, ₱ lb	4@ 5
Peppers, Green Chile, ₱ box	25@ 50
Pepper, Bell, ₱ large box	40@ 50
Squash, Cream, ₱ box	20@ 35
Tomatoes, River, per large box	—@ —
Tomatoes, Bay, ₱ box	25@ 50

Potatoes.

Ordinary qualities of Sacramento river potatoes were in sufficient supply most of the week to keep prices for the same nearly as low as at any previous date this season. For best qualities of Salinas Burbanks, however, and select Oregon potatoes, the market was firm, with some sales of fancy stock at higher figures than were justified as regular quotations. Sweets were in only moderate receipt, and choice sold to fair advantage.

IN SACKS.

Early Rose, River, ₱ cental	35@ 50
Peerless, River	—@ —
Reds, River	40@ 50
Garnet Chile, Mission	—@ —
Burbanks, River	35@ 50
Burbanks, Salinas	60@1 07½
Burbanks, Oregon	50@ 85
Sweet Potatoes, Sacramento	75@1 00
Sweet Potatoes, Merced	1 00@1 25

Fresh Fruits.

Market is seldom more poorly stocked with fresh fruits than it has been the past week. The very stormy weather part of the time was of itself sufficient cause for the very limited display, in addition to which fact the advanced state of the season naturally led to the same result.

Apples from Pacific coast sections were in slim receipt and will continue so during the balance of the season, owing to the yield having been light. Market is decidedly firm for choice to select, perfectly sound and free from worms. Fair to medium qualities sell to comparatively good advantage. Eastern apples have been lately arriving rather freely, and prospects are that they will be on market in tolerably liberal quantity during the balance of the season. One dealer reports that

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Turkeys.

During the holidays we have an enormous turkey trade—in fact, you can't do better than ship your poultry to us. Groceries are still cheap; for instance, in our "WEEKLY SPECIAL" this week we quote:

Argo Starch, the best in the market, 1-lb. pkgs. corn or gloss, per lb	$ .06
Table Peaches, Cutting's "Extras," per doz	1.40
Salmon, 2-lb. tins, genuine Oregon Columbia river, per doz	1.60
Graham Flour, 10-lb. sacks, per sack	.30

And many other bargains. Get our lists.

WE WILL QUOTE YOU PRICES ON ANYTHING ON EARTH.

J. M. MOORE, 221 FRONT STREET, SAN FRANCISCO, CALIFORNIA.

he has contracted for seventeen carloads. The Eastern apples are jobbing at $3 to $4 per barrel, as to variety and condition.

Pears of choice to select quality are not lacking for custom, and are bringing very good figures, all things considered. The Winter Nelis pear is the only variety worth quoting separately. Offerings of above variety which are uniformly large and free from blemish are eagerly sought after at the top prices ruling.

Grapes brought better average prices than during preceding week. Although offerings were of light proportions, they included some of very fair quality for this time of year. A few weeks more, and this fruit will be practically out of market for the current season.

Persimmons were offered at about same figures as previous week, but failed to receive much attention from consumers. One great disadvantage of this fruit is that it ripens very slowly, is only fit to eat when thoroughly ripe, and then will not stand much handling.

Pomegranates failed to develop any improvement, either in the demand or in prices obtainable, despite rather slim receipts.

Strawberries did not arrive in sufficient quantity to be quotable, the stormy weather playing havoc with this fruit.

Cranberries from Oregon are offering at $2.50 per box, and the Eastern product is selling at $8@9 per barrel.

Apples, fancy, 4-tier, per box	1 00@ 1 25
Apples, good to choice, 50-lb box	75@ 90
Apples, fair to good, 50-lb box	60@ 75
Apples, common, ℔ 50-lb box	35@ 50
Pears, Winter Nelis, per box	50@ 1 25
Pears, other kinds, ℔ box	40@ 75
Persimmons, ℔ box	40@ 75
Pomegranates, ℔ box	40@ 65
Quinces, ℔ box	—@ —
Nutmeg melons, ℔ box	—@ —
Cantaloupes, per crate	—@ —
Berries.	
Blackberries, ℔ chest	—@ —
Cranberries, Eastern, ℔ bbl	8 00@ 9 00
Cranberries, Oregon, ℔ box	2 50@ —
Currants, Red, ℔ chest	—@ —
Raspberries, ℔ chest	—@ —
Strawberries, Longworth, ℔ chest	—@ —
Strawberries, Large, ℔ chest	—@ —
Whortleberries, ℔ lb	—@ —
Grapes.	
Black Hamburg, ℔ box	45@ 60
Cornichon, ℔ box	50@ 75
Fontainebleau, Cal., per crate	—@ —
Fontainebleau, Cal., per box	—@ —
Isabella, ℔ crate	—@ —
Muscat, per box	45@ 60
Muscat, ℔ crate	50@ 70
Muscat, ℔ ton	—@ —
Mission, per ton	—@ —
Rose of Peru, ℔ box	45@ 60
Rose of Peru, ℔ crate	50@ 70
Royal Isabella, ℔ crate	—@ —
Seedless Sultana, ℔ box	—@ —
Tokay, ℔ crate	50@ 65
Zinfandel, ℔ ton	—@ —

Dried Fruit.

The following is a review under recent date of the dried fruit market in New York:

Evaporated apples are weak and unsettled. There is a steady jobbing demand, but stock is offered so freely from the interior, and prices here are so much above parity with those current in the State that exporters and large operators are getting goods direct, confining trade here to current jobbing wants. The export movement continues very large, speculators expecting to carry the goods on the other side until needed. Fancy job from 5@5¼c, extra fancy in instances higher, and extra choice 4¼@4¾c. Prime have sold at 3⅞@4c, latter extreme. To move stock in carload lots, however, interior prices would have to be met, namely 4⅛@5c for fancy, 4@4¼c for choice and 3⅝@3¾c for prime. Very little doing in cheaper grades of evaporated or in sliced apples. Chops and cores and skins nominal, but firm. Southern peaches scarce and nominal. Raspberries held about the same, but not quite so firm. Blackberries ½c higher. Huckleberries weak, and 6½c extreme. Cherries nominal. California fruit very firm.

Apricots, Cal. Royal, bxs., 1896, per lb	10 @12
Apricots, Cal. Royal, bags, 1896, per lb	9 @11
Apricots, Cal. Moorpark, 1896, bxs	12 @15
Peaches, Cal., 1896, unpeeled, lb	6½@10
Prunes, Cal., 1896, as to size	4 @ 8

Little change has occurred in the general condition of the dried fruit market in this center since last issue. Trade continues light, and no special revival of business is anticipated until after the holidays. The market cannot be said to be burdened with offerings of any variety, still there are fair supplies of nearly every sort ordinarily found in stock in this center. Apples grown and cured on this coast, either evaporated or sun-dried, are probably in lighter stock than any other description, but Eastern evaporated have been imported by some of the wholesale grocers, and these importations are operating against the advantageous sale of local product. Eastern evaporated are selling at 5c, while the best domestic are held at 5½c. Apricots, peaches, pears, prunes and plums are all ruling very quiet at present, and while not quotably lower, existing rates would have to be cut to effect any noteworthy transfers. It is doubtful if there could be very much trade developed just now, even by cutting rates in favor of the buyer. Experience has proven that the time to sell is when buyers are in the field. To attempt to force sales by cutting prices when there are no buyers, results in most cases in simply reducing values without being able to make any special reduction in stocks.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	7½@ 8
Apricots, Royal, fancy	9 @10
Apricots, Moorpark	10 @12½
Apples, in boxes	5½@—
Nectarines, White	5 @ 5½
Nectarines, Red	4 @ 5
Peaches, unpeeled, prime to choice	5 @ 6
Peaches, unpeeled, choice to fancy	6 @ 7
Peaches, peeled, in boxes	11 @12½
Pears, peeled and sliced	4 @ 5
Pears, unpeeled Bartletts, halved, fancy	6½@ 7
Pears, halved, unpeeled Bartletts	4 @ 5
Pears, quartered, unpeeled Bartletts	4 @ 5
Plums, pitted	4 @ 5
Prunes, in sacks, 4 sizes	3½@—
Prunes, in sacks, small sizes	2½@—
Prunes, Silver	7½@ 8

COMMON SUN-DRIED.

Apricots, ordinary	5½@ 7
Apples, sliced	2½@ 3
Apples, quartered	3 @ 3¼
Figs, Black	2½@ 3
Figs, White	3 @ 4
Plums, unpitted	1½@ 2

Raisins.

Contrary to the general rule in the dried fruit line, this market is showing as much or more firmness than at any previous date this season. Stocks of all descriptions are light, and it is thought will be wholly cleaned up inside the next thirty or sixty days. Sultanas and Seedless Muscatel are in particularly slim supply, and quotable values for these show a slight advance.

FRESNO DELIVERY, F. O. B.

Imperial Clusters, per box	3 00@— —
Dehesa Clusters, per box	2 50@— —
Fancy Clusters, per box	1 60@ 1 75
Boxes, London layers, 20-lb box	1 20@ 1 25
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ℔ lb	5¼@5½
Loose Muscatel, 3-crown	4¼@4½
Loose Muscatel, 2-crown	3¾ a 3½
Sultanas	5¾@6
Seedless Muscatel	4½@5
Dried Grapes	3 @ —

Citrus Fruit.

Oranges of new crop which have so far arrived include scarcely any which could be termed sufficiently ripe to be desirable. Both Navels and Seedlings of good color were salable to good advantage on account of Thanksgiving observances, the Navels, of course, receiving the preference and commanding the best figures. Lemons were in fair supply and market was easy at previously quoted range of prices. Limes were offered in sufficient quantity to give buyers the advantage.

Oranges—Wash. Navels, ℔ box	3 50@ 5 00
Cal. Mediterranean Sweet	—@— —
Cal. Seedlings	1 50@ 3 00
Cal. Valencias	—@— —
Mexican	2 50@ 3 00
Grape Fruit, ℔ case	—@— —
Lemons—Cal., select, ℔ box	2 50@ 3 00
Cal., good to choice	1 50@ 2 00
Cal., common to good	1 00@ 1 50
Limes—Mexican, ℔ box	4 00@ 5 00
Cal., small box	75@ 1 25

Nuts.

There is a fair demand from retailers to satisfy holiday requirements, but in the way of purchases from first hands there is scarcely anything doing in either almonds or white walnuts. Quotations are unchanged, but full current figures are not readily realized. Peanut market is ruling quiet at unchanged rates, with moderate supplies of domestic and Eastern.

California Almonds, paper shell	8 @ 9½
California Almonds, soft shell	6 @ 8
California Almonds, standard	5 @ 6
California Almonds, hard shell	3 @ 4
Walnuts White, paper shell	9 @10
Walnuts White, soft shell	8 @ 9
Walnuts White, Cal., hard shell	6 @ 7
Chestnuts, Cal. Italian	8 @10
Peanuts, Cal., fair to prime	4 @ 5
Peanuts, Eastern hand-picked	5 @ 5½
Pine Nuts	9 @11

Dried Fruits at New York.

NEW YORK, Nov. 21.—Apricots, bags, 9@11c. Peaches, peeled, 14@15c; unpeeled, 7@9c. Prunes, four sizes, 5⅛@5¼c. Raisins, two-crown, L. M., 4¾c; three-crown, 5½@5¾c; four-crown, 6½c; do London layers, new, $1.40@1.90; do clusters, new, $1.75@2.

NEW YORK, Nov. 24.—Apricots, bags, 9@11c; peaches, peeled, 14@15c; unpeeled, 7@9c; prunes, four sizes, nominal, 5⅛@5¼c; raisins, 2-crown l.m., 4¾c; do 3-crown, 5½@5¾c; do 4-crown, 6¾c; do London layers, new, $1.45@1.50; clusters, $1.75@2.

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A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. *Impossible to produce scar or blemish.*

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Patrons of Husbandry.

From Petaluma.

Worthy Secretary Chapman writes that at its last meeting, Petaluma Grange passed resolutions of respect to the memory of its late brother, Everett Charles, as "an upright and useful citizen, a dutiful son and exemplary husband." The sympathies of the Grange were duly tendered to the bereaved family. Secretary Chapman adds that the deceased brother was 29 years of age and but one year married. He was a graduate of the Petaluma High School.

Petaluma Grange, the secretary writes, has "about sixty good paying members and good prospects for more during the winter."

Grange Notes.

Worthy Master Saunders of San Jose is still disabled, and at the last two meetings Past Master Pettitt has occupied the chair.

At its last meeting, after a unique and interesting discussion, San Jose Grange decided that the human race is not deteriorating, but, on the contrary, that it is steadily improving.

No word has yet been received from Worthy Master Greer; but, in accordance with his plans, he is no doubt somewhere in the big Grange States. He will return by way of the Sunset route, taking in the more important Southern cities en route.

A VERY suggestive sight is the long line of steam locomotives which the passenger on the Lake street elevated road in Chicago sees rusting on a siding as he glides past them behind a noiseless, smokeless, sparkless, smelless electric motor. Here, at least, the steam engine has had its day. The discarded machines, thirty or so in number, modern and perfect of their kind, served their brief term well, and are as capable of service now as ever. It was through no fault as steam locomotives that they were dismissed from service into inglorious idleness, but because a better and more economical power in the form of electricity has been discovered. The proof of its superiority must have been conclusive, for the owners of this hitherto unprofitable road, newly and amply equipped as it was for steam service, have borrowed and expended nearly $300,000 in equipping the eight-mile line for electricity. Indeed, the advantages of electric power for light, short-line passenger service have been demonstrated, and the only question now seems to be when this power will be adopted for all train service in cities.—Railway Age.

THE district of Archangel, Russia, has a timber area of about 88,000,000 acres, all belonging to the Russian crown, and the revenue therefrom exceeds that from any other government of Russia. Sales by auction take place annually from a minimum price fixed each year. In 1895 the logs sold for about $500,000. There are nineteen large sawmill plants contributory to the White Sea ports. The growth of the lumber business in this section during the last ten years shows considerable progress. In 1886, 1535 men were employed in the mills, with an output valued at $1,300,000. In 1895, 4558 men were employed in the mills, with an output of over $3,000,000.

LOCOMOTIVES destined for exceedingly fast runs require training, as do race horses. The locomotive built for speed is first put to work on some small branch line, with light trucks, until it becomes accustomed to running, and all the parts are brought down to their proper bearings. Having undergone this periodical probation, it is taken on to more important portions of the lines, and gradually worked up by increasing speed until it is given its place on the line of the great flyers. To train a locomotive takes about two months.

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—THE— "San Jose Cultivator" Is the very best, all-around, up-to-date cultivator in the field . . .

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Hydraulic, Irrigation and Power Plants, Well Pipe, Etc., all sizes.

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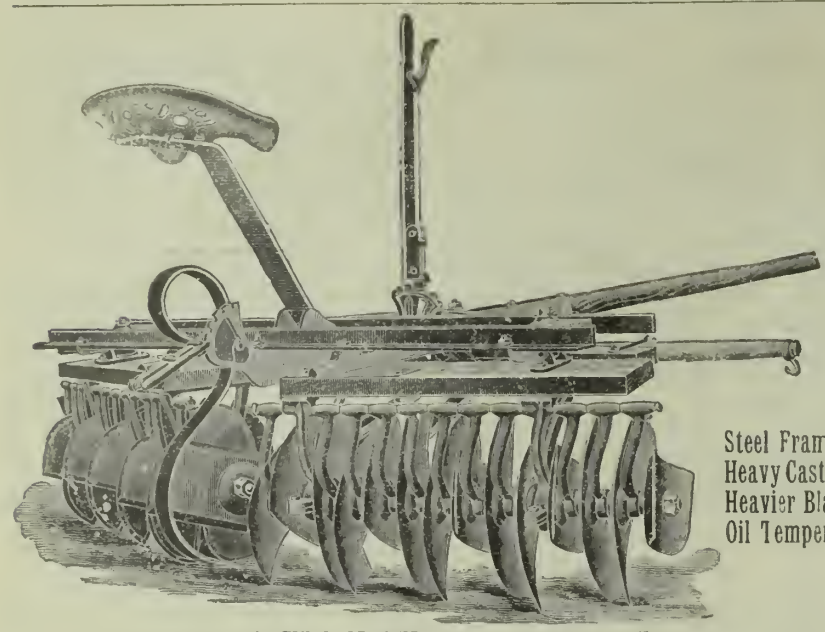

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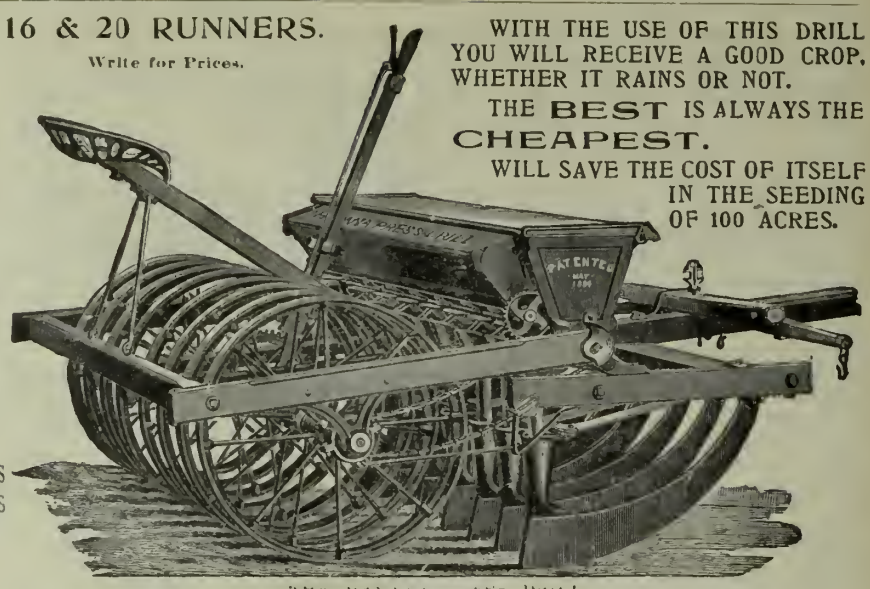

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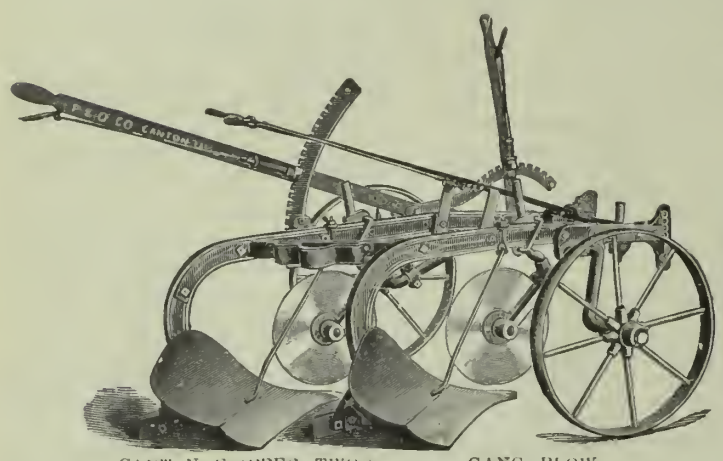

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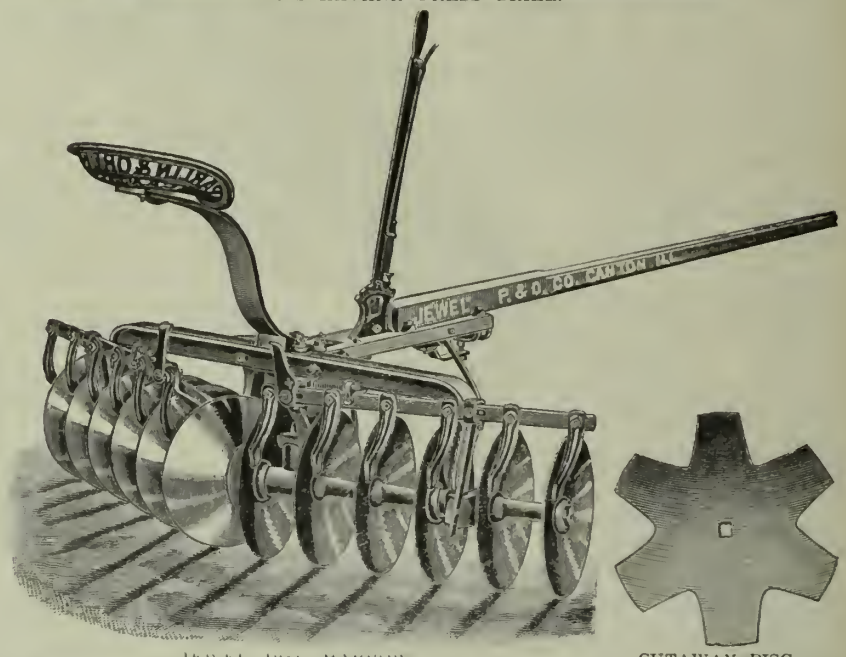

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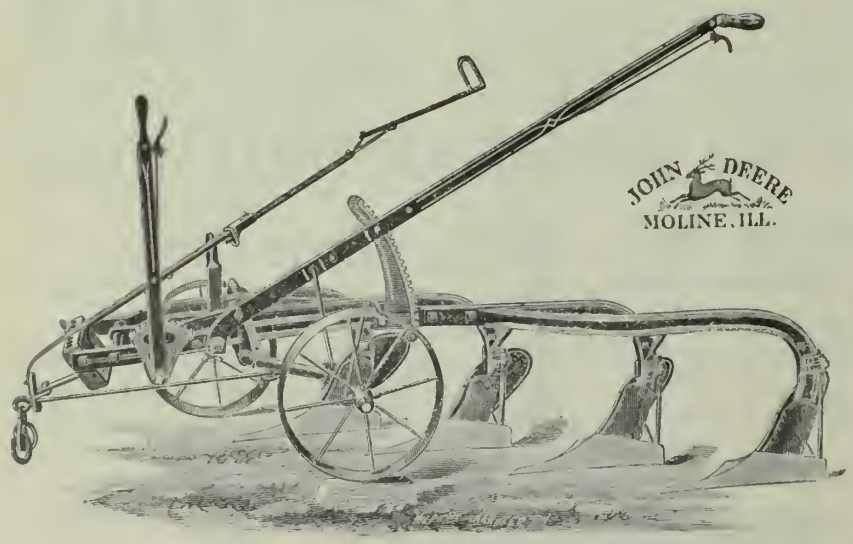

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THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LII. No. 23 SAN FRANCISCO, SATURDAY, DECEMBER 5, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.

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Timber-Land Farms in Humboldt County.

The RURAL PRESS oftentimes presents to its readers pictures intrinsically prettier than those herewith, but never any which tell their story more graphically and completely. What it is designed to show is the productive value of the denuded timber lands of northern California; and nothing could do it better than the growing crops shown in these photographic reproductions. It would, perhaps, have been a little more "tasty" if roses, violet beds and groups of daisies could have been substituted for beets, carrots and potatoes, but we suspect that judicious readers, with an eye to business, will be just as well content with the less beautiful, but more practical, form of demonstration.

Old notions die hard; and in spite of unnumbered and unimpeachable exhibits to the contrary, we often hear it said that our timbered lands are fit for nothing but timber; and the land-office records bear a mountain of testimony (of course under oath) that such lands are "valueless for purposes of agriculture." Let all who are thus deluded look upon these pictures and forever after hold their peace.

As a matter of fact—and it is not necessary to look away from this page for the proof—there are no lands under the sun more plentiful for all the uses of practical agriculture than are wide areas of forest land in our northern counties. It takes much sweat of brow to make them clear of the growth of centuries; but, once in shape, they respond wonderfully and persistently to the appeals of thrifty farming. Go anywhere in the northern tier of counties, especially along the coast, and you will find, literally hewn out of the primeval forest, farms as productive and as smiling as any to be found anywhere else out-of-doors.

Humboldt county affords innumerable examples of this fact. Of that wonderfully endowed region no aspect is more prominent or pleasing than its areas of "reclaimed" timber land. If anybody doubts it, just show them the accompanying pictures.

BEETS AND CARROTS ON A TIMBER-LAND FARM IN HUMBOLDT COUNTY.

THE WAY POTATOES GROW ON DENUDED FOREST LAND IN HUMBOLDT COUNTY.

THE advance in the price of wheat is making some radical changes in the farming operations of this coast. In eastern Oregon, for example, during the past two years many grain raisers have been turning their attention to hogs, finding it more profitable to market their crops in the form of pork than at 30 to 50 cents per bushel. Under the advanced prices, however, wheat is too valuable for hog feed; and the consequence is that pigs are being shipped out of the country at a great rate. During the first three days of this week fifty carloads of stock were shipped from La Grande. The shipment included forty-one cars of hogs, two cars of sheep and seven cars of cattle. There were in round numbers 10,000 head of hogs, which brought an average price of $3 a head. These shipments were mostly to Iowa and Illinois points. The chief cause of this sudden shipment of hogs is the fact that wheat has become too high in price to be profitably turned into pork, while in the central West there is an enormous corn crop and hogs for feeding purposes are in demand. Nearly all of the hogs shipped East are to be sold as feeders, and the same is also true of the cattle shipped. It is said that this part of the country is now pretty well cleaned up, as far as hogs are concerned, and there is a probability that it will be some time before the supply is materially increased. A few farmers refused to sell, and will endeavor to winter over and wait for an advance in price, likely to follow the diminished supply. Another new wrinkle in connection with the new conditions is the use of potatoes for feed while the shipments are on the way. Heretofore grain has been used for this purpose, but 70-cent wheat is too much of a luxury, and hundreds of sacks of potatoes have been secured for feed.

TEN THOUSAND HEAD of small native horses, says the Tacoma *Ledger*, are likely to starve to death in eastern Washington this winter, and, strange to say, their owners as a rule are glad of it. Practically valueless are these horses. Electricity and the bicycle are the cause. Instead of being man's best friend, the horse has become an actual pest in eastern Washington. "An eating machine" is his latest nickname, and his death is desired that feed may be preserved for great bands of cattle and sheep, which are yet valuable to man. And so the most severe winter the Northwest has seen—at least since 1861—is a thing to be desired, rather than otherwise, by the great grazing interests of eastern Washington and Oregon. That such a winter is at hand the Indians, the oldest inhabitant and the weather prophets all agree. No taxes are paid on these horses. Owners will take out their good horses and care for them. If 90 per cent of the total number are killed off the 10 per cent left will be worth as much, if not more, than the entire lot now. Once killed off they will never become so numerous again, for no effort will be made to breed range horses, there being no money in the business.

THE Watsonville *Pajaronian* says: "Some of our orchardists are appylying a petroleum wash to the corners of their orchard picking boxes. They find it a good remedy for pests that are apt to hibernate in such places. Careful inspection of all fruit boxes in and around orchards will tend to keep down pests."

PACIFIC RURAL PRESS.

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Registered at S. F. Postoffice as second-class mail matter.

ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, December 5, 1896.

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The Week.

Weather and Crops.

It is an old song we have to sing this week. While north and east of us the whole country between the Atlantic and Pacific oceans has been deluged or frozen or both, the skies have smiled upon fair California. The mornings are a little frosty but the only practical effect is to make the average citizen a little more than reluctant to leave his warm bed. So far as we can learn no damage has resulted to tree or vine. The days have been glorious and as recent rains have left the soil in fine condition farming industry has been decidedly on the hum. Not in five years has there been such general hopefulness in the country. Everybody is making ready to work his wheat and barley land "to the limit;" and if California does not roll out a mountain of yellow grain next harvest it will not be the fault of our farmers.

The following data for the week ending 5 A. M. Wednesday, Dec. 1, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	.76	13.35	7.36	8 77	60	28
Red Bluff	.16	5.21	3.82	5.68	54	28
San Francisco	....	6.76	2.67	4.47	59	38
Fresno	1.00	3 02	.41	1.51	54	28
San Luis Obispo	1.86	4.69	3.32	....	70	36
Los Angeles	1.14	2.99	1.03	2.81	24	36
San Diego	.88	2.07	1.31	1.58	66	42
Yuma	.06	1.10	.32	1 24	66	42

Good Horses Are Getting Scarce.

The military authorities at the Presidio, San Francisco, are finding it difficult to purchase remounts for the cavalry, due to the fact that the country is almost bare of young and sound horses suitable for cavalry purposes. For the last three or four years such animals have been cheap almost to the point of having no market value; but horse breeding has very largely ceased, and there is no resource for any immediate demand. Recently Chief Quartermaster Col. Kimball advertised for sealed proposals for sound, well-bred horses, and incorporated in the stipulation that horses bred in California would be given the preference. No response whatever was received from California breeders, and only a few came in from some local dealers. In addition, the prices asked were four times as high as those which accompanied the bids of several years ago, and the Government had to abandon the idea of securing California-bred horses and the animals required were purchased in southern Oregon. The price paid was $133.50 per head. Horses are scarce in Oregon, too, but the abandonment of horse breeding has not been so extensive there as in this State. Col. Kimball has issued an announcement that twenty-three more horses are required at the Presidio, and it is understood that these, too, will have to be purchased in Oregon, or possibly in Arizona.

The Hatch Failure.

Sympathy for A. T. Hatch in the miscarriage of his orchard schemes is, we believe, universal. Mr. Hatch is recognized as a man of great spirit and courage, and everybody concedes that he has done more for the orchard indirectly than any other single grower. There is, however, among many a feeling that his failure is an assurance of conditions highly favorable to the development of our fruit business upon wholesome lines of moderate individual production as distinguished from wholesale methods of production. With this idea in mind, the editor of the Watsonville *Pajaronian* writes as follows:

A. T. Hatch, the best known of California's orchardists, has failed, and his large orchards are passing from his hands. Much sympathy is expressed for Hatch by the press; but Hatch builded his own ruin—he was the architect of his failure. He is a man of energy and intelligence. He had witnessed the failures of others who had attempted to run the orchard business on a wholesale plan, yet he discarded that observation and experience and plunged into a course that was certain to end in bankruptcy if two or more poor seasons followed each other. Ten years ago he was one of America's largest and most prosperous orchardists. His place of several hundred acres near Suisun was profitably productive. Not satisfied with a success and an income that was far beyond what had been accomplished by any other California orchardist, he commenced to buy land and plant trees in different parts of the State. Instead of hundreds of acres he had thousands of acres in orchards, and with each new orchard came another mortgage. He sent his fruit to Europe. He tried to compel markets; but whether markets returned profit or loss, the daily wear of the interest was increasing, and the accumulation of debts finally overpowered him. If A. T. Hatch had remained satisfied with his Suisun orchard, and had continued to give it his close attention, he would be to-day free from debt and be worth, in coin and property, a million or more dollars. He failed because he tried to do too much. He tried to be an orchard monopolist and he failed, and so will those who come after him and try the same course. The success of Hatch's undertakings meant the prosperity of one man where thousands should be successful. To gain his success these thousands would have to be deprived of the opportunity to attain success. The failure of A. T. Hatch is a loss to himself and to the workmen he has not paid, but it is a gain to the smaller orchardists of our State and a forceful argument against attempting a monopolistic handling of any soil product. There is room in California for small orchard holdings, and there is a market for the productions thereof; but the upbuilding of a system like that undertaken by Hatch is a menace to every small orchard owner and a bar in the pathway of California's development as a prosperous home State.

The Colusa *Sun* takes quite another view of the matter. Its remarks upon the failure are as follows:

The failure of A. T. Hatch is a public calamity. He planted orchards all over the northern part of the State, and whatever he did he did well. He assisted and encouraged others in planting, and he pioneered the fruit market. When people talked about stocking the market, he simply told them to widen the scope of the market. He led the way to a successful Eastern market, and had just tried the European market. His property will be sacrificed and he will go without money, but not without capital. His knowledge of the fruit business, his business capacity, his industry and indomitable push make him a vast capital that is not subject to execution.

Sale of Unripe Oranges.

The Pomona *Times* argues very properly against the sale of oranges before they are ripe, no matter how rich they may be in color or how much dealers may be willing to pay. Referring to a recent sale the *Times* says:

Everybody here knows the fruit was unfit to eat. It was beautifully colored and clean, but not ripe—in fact, it was without more fragrance than the green fruit. We think the sale of such stuff injurious to growers generally; but some dealers take the opposite view. They say the first pickings of foreign and Florida oranges are always unripe. The grower is in the business for all he can get, and if color will sell his fruit at extra high prices he and the buyer argue that it is good business to sell. They also argue that later on, when our sweet, ripe fruit goes into market, it will sell on its merits and bring just as much as if no unripe fruit had gone forward from the same localities. Perhaps; but the general proposition seems true: that a community which always sends first-class, ripe fruit to market will find it in greater demand and at higher prices than the one which sends inferior, unripe fruit. A good reputation honestly acquired is worth money. We think the locality that only ships all ripe, sound fruit will in the long run receive the most money for it.

The Wool Interest Active.

That the champions of the American wool industry are wideawake and making ready to push the cause before Congress is shown by the following telegram, which comes from New York:

President McNaughton of the Wool Exchange, assisted by Senator Clarence Lexow, is preparing a bill designed to readjust the tariff on wool, which will be presented about December 15th. According to statistics compiled by wool growers and manufacturers, the Wilson-Gorman bill has been almost criminal in its effects on the wool growing industry. Since 1892, when the tariff was taken off wool, the number of sheep has been decreasing at the rate of 3,800,000 a year. The loss has been $60,000,000 a year, and many wool growers have been ruined and others driven from the business. Importers of wool would be satisfied if there was no tariff at all on wool. By the growers it is said that importers can purchase Australian wool cheaper than that grown in Texas. The importers reply to this by saying that the home-grown product is inferior. Manufacturers, however, favor the tariff, and will endeavor to have the McKinley bill restored. The Dingley bill does not afford adequate protection, as it places too much duty on manufactured goods and not enough on raw material. The consensus of wool dealers' opinions is that the American wool industry cannot exist if the tariff laws are not speedily changed.

Gleanings.

A CANNERY agitation is on at Hollister.

THE introduction of creameries promises to revolutionize the dairy industry of Stanislaus county.

THE tuberculosis scare in Oakland has taken a deep hold and many dairy cows are being slain by order of the inspector.

GEORGE F. SMITH, a well-known orchardist of San Jose, has failed. Liabilities, $18,000; assets, a 55-acre ranch, value undetermined.

WHEATLAND shipped over 9000 pounds of turkeys to San Francisco during Thanksgiving week. The prices received were generally satisfactory.

IT is definitely announced that work will be begun on the projected Salinas beet sugar factory early in January. It will have a capacity of 300 tons daily.

SHIPMENTS of early oranges are regularly being made from the Porterville district, although the business has been a good deal delayed by the recent rain.

THE demand for first-class pickled ripe olives is greater than the supply. Much of the product is not up to standard, due to haste or inexperience in the pickling process.

THE *Grocery World* is authority for the statement that the recent large demand for California dried pears in Europe grows out of their use in the manufacture of champagne.

THE prevailing opinion in the commercial world is that wheat prices will remain good for an indefinite period. Preparations are making for seeding an immense acreage in this State during the coming winter.

LONDON, November 24.—The *Times* has an Odessa dispatch which states that the latest official reports are to the effect that the winter crop throughout the south of Russia, except in the Caucasus, is in a fairly favorable condition.

YOUNG MR. HOBART returned from an eastern visit last week, bringing out a string of eighteen fancy horses for competition in the coming horse show. Mr. Hobart has closed out his racing stables and has retired from the turf.

THE Sunset Seed and Plant Co. has put upon the market its recent beautiful little publication, the "Sweet Pea Review.' All that anybody knows about the varieties and the culture of sweet peas is in the little book. It is offered for 25 cents.

THE sugar-beet agitation has reached Sebastopol, and a public meeting to consider ways and means was held last Saturday. They are enterprising people up in Analy township, and whatever they undertake is usually carried through.

THE Deere Implement Co. is this week moving from its old location, corner of Market and Beale streets, to the commodious four-story building, Nos. 209-211 Market. This move is necessitated by its increasing business in agricultural implements, buggies, bicycles, etc., and a desire to expand its facilities for conducting the same.

MR. LEONARD COATES, who has recently reacquired the ownership of the entire stock and plant of the Napa Valley Nursery Co., has just issued a price sheet of "new and little known varieties" of fruit trees, which is well worth the notice of tree planters. It will be sent free to those who write for it. Address Leonard Coates, Napa.

THE State Board of Trade has taken up the work of securing a creditable exhibit from California for the horticultural exposition which will be held at Hamburg, Germany, from the 1st of May next until the close of September. In presenting California products at that exposition the Board of Trade must have the co-operation of the fruit growers and some financial assistance from every fruit county of the State.

THERE are curious things in the world of commerce. For example, southern California is receiving apples from the East in carload lots, while at the same time California apples are being shipped East and even to Europe. The *Pajaronian* (Watsonville) says: "A carload of choice Newtown pippins left here last week for London, England. The Pajaro pippin has reached the taste of a class in England who can pay the fancy price it commands."

DURING the recent fruit season the new Marysville cannery paid out $25,771 for labor. Of the 53,822 cases of fruit packed, 34,643 were of peaches, 7,833 of pears, 3,844 of apricots, 4,400 of tomatoes, and the remainder held plums, grapes and nectarines. The best grade of the peaches found ready sale in the London and Liverpool markets, and in the Eastern markets the goods are in lively demand. But a small portion of the season's pack is left in the Marysville warehouse.

POMONA *Times*: Mr. P. J. Dreher visited his ranch north of Pomona a few days since and was surprised to find many navel oranges cracking open. Later investigation reveals the fact that the trouble is general throughout southern California. It is possible 5 per cent of the fruit may be cracked or split at the navel end. The crack does not destroy the fruit but makes it unsalable, except in the home market where its value is understood. The cause of cracking is not definitely known. Mr. Dreher's trees are four years old and carry about a box of oranges to the tree.

Treatment for Wrench or Sprain.

TO THE EDITOR:—I will try and give a letter description of the lame horse I have. He went lame six weeks ago while being driven over a rough and rocky road. He appeared to be stiff in the shoulders at first, but now it is in the left shoulder. He limps much worse going down a hill than he does on level ground, and is worse at the end of a drive and kind of stiff the next morning. He flinches from a hard draft in the collar, but the muscles are not shrunken as in sweeny. His feet are all right apparently. E. R. FREY.

Brentwood.

ANSWER BY DR. CREELY.

This is a wrench or sprain of perforans tendon where it attaches at the semilunar crest of the *os pedis*—in other words, a sprain of the main tendon at its attachment to the coffin bone. If rest is not given and care taken, it may result in the horse being permanently lame.

Treatment.—Put on lame foot a long shoe with heels ½-inch high; no toe. Remove the other shoes. Apply cold-water bandages above top of feet for three or four days. Don't exercise or work. Feed nothing but hay, for to feed grain or bran to any horse not working would in a majority of cases cause paralysis, or what empirics call black water. Clip hair off and rub in the C. P. horse blister; after four days wash off with warm water and castile soap, and apply vaseline. In one week or ten days take off shoe and turn on a level pasture. It is a well-known fact among veterinarians that not one out of 100 cases of lameness is shoulder lameness, from the fact that the shoulder is the strongest part of a horse and the least liable to injuries.

DR. E. J. CREELY, 510 Golden Gate Ave.

From an Independent Standpoint.

Mr. Bryan thinks the "worst enemies of this country" are the men who seek to shape tariff legislation for their own advantage. Mr. McKinley thinks our most dangerous element is that which would eliminate the protective principle from our politics and reduce our working people to the level of European lower-class life. Mr. Cleveland thinks the greatest of all dangers is that of a reduction of our monetary standard, involving universal bankruptcy and a colossal scheme of public and individual repudiation and dishonor; and in this view he deems the free silver man the worst of all public enemies. Mr. Harrison thinks all other issues are trivial compared with the danger of discrediting the United States Supreme Court; and, holding this opinion, he regards the makers of the Chicago (Bryan) platform as a body of public enemies. Senator Teller thinks our greatest national peril lies in the material and social consequences of a money system mechanically unequal and cruel; and he looks upon the gold-standardists as a syndicate of more-or-less conscious national enemies. Henry Watterson thinks the most serious danger to the stability of our national life is the growth of a new sectionalism as between the capitalistic East and the producing West; and he denounces the East as the chief sinner in its "ostentatious display of wealth," in its "gradual cultivation of caste" and its insensibility to the conditions of the country at large. Mr. Lecky, European philosopher and historian, thinks our chief danger lies in our system of unrestricted suffrage, by which the power of taxing those who have is in the hands of those who have not; in other words, he deems the chief enemy of the Republic to be its propertyless class. The London *Times* thinks American politics is to be permanently afflicted with the virus of socialism, and that under the stimulus of widening class interests, aggravated by a system of popular half-education, it is the overshadowing menace to American peace.

In our judgment, Mr. Watterson comes nearest the mark. Whatever mischief may follow mistaken policies relative to tariffs or finance, the authority of courts or other mere questions of public policy, are subject to correction; but not so the evils which attach to the concentration of wealth, to gross selfishness in its administration, to vanity in display and to the cultivation of social caste. These things lie at the foundations of society, and their potentiality for evil is positive and radical. Nobody can fail to observe that there is steadily growing in this country—mainly in the Eastern States, but with branches in all the great centers of wealth—a class whose whole attitude and conduct are foreign and repugnant to the first principle of our American system. The standard oil men are conspicuous examples of this new and dangerous element in American life. In their business operations they respect no law. If competition is an annoyance, it is crushed by the most cruel methods. If enactments are required, legislatures are promptly influenced. If judicial judgments are wanted, the power of money is employed directly to the desired end. The agents of the system sit in Congress and in the Senate and command representation sometimes even in the President's Cabinet.

To these practices of business and political selfishness is added a social spirit at odds with American ideas and defiant of that tradition of equality which is the very foundation of American patriotism. The wife of one "magnate" is just setting up as "queen" of the New York social world, her title to reign being the possession of unlimited wealth and the entree to English society. The daughter of another was recently married with a complete parody of royal ceremonies. The daughter of still another is sold to a marriage of ambition, and with American money is upholding the extravagance of a semi-royal establishment beyond the Atlantic. In the ostentation of its dwellings and equipage, in the extravagance of its entertainments, in its open contempt for the plain and normal conditions in life and in its rank flunkeyism toward old-world aristocracy, this new social element is a constant irritant toward the great body of American people. Especially during the hard times of the past three years, when the mass of our people have found the conditions of life very trying, there has grown up a spirit of resentment against that caste which has no real respect for law, which recognizes no duty of sympathy or kindness, whose very charity is a condescension and an offense, and which never ceases to parade the sharp contrast between the house of too-much and the house of want.

In the older countries wealth is a conservative force, everywhere upholding the system of national ideas and manners. In this country it has—at least in the popular estimation—taken on quite another character. It seeks, by the organization of trusts, to beat down legitimate competition; it seeks, in multitudes of cases, to break down the constituted agencies upon which sound government depends, and it makes itself socially offensive by its vanity and arrogance. These are the things which among a large body of voters have created that fierce hatred of wealth, involving jealousy even of the simple rights of property, which has been manifest in the political agitations of the year. The worst of the situation is that those who do these things seem to have no comprehension of their own position. They look upon Western popular sentiment as a thing of indigenous growth, failing to recognize that its source and origin rest upon their own impolicy and folly. They do not seem able to understand that every time a new trust is formed, it increases the political power in opposition to organized wealth; that every election of a "railroad Senator" strengthens the hands of the radical reformers, and that every such event as the Vanderbilt-Marlborough wedding, with its transport of American millions and its shame to American pride, is a stimulant of social dissatisfaction.

In the opinion of Mr. Watterson the wealth of the East is in danger chiefly because it has not the wisdom to estimate the effect of its own course. The East might, he says, with profit to itself and to us all, read a chapter out of our own history and take a hint from the experience of the South; and his suggestion gains force from the fact that in the late war he was a gallant soldier in the armies of the lost cause. He says:

The institution of African slavery was thought to confer great benefits upon its possessors. It produced in the South a distinct caste. Recognized by the constitution, property in man came to take on a kind of divine right, and at last its supporters went to war to defend it. England had got rid of slavery in her colonies; Russia had extinguished serfdom; Brazil was preparing to emancipate her slaves. Everywhere, except in the Southern States of the American Union, the world was set against slavery. To cling with tenacity to so untenable, and has since been revealed, to so profitless a system of labor, to say nothing about morals, was singularly short-sighted in the public men of the South; but to take the field in its behalf and against such odds seems inconceivable from the standpoint of rational statesmanship. But the South did it, and dearly paid the consequences. Let the East take to itself the lesson of the South * * * let the East behold a danger it will do well to consider in the light of both ancient and modern history, and if it has any real statesmen they cannot put their genius and resources to better uses than by the construction of policies which will bring them alliances and make them friends—policies wise and broad, justifying in some measure the unlimited accumulations they have been able to pile up in such a relatively short compass of time. * * * Only pride, the pride of wealth and caste, will keep the East from seeing the truth that it must make a partner of the rest of the country, by not only generous and expanding policies, but, above all, by just policies—harder, perhaps, to realize than any other policies. We can always be generous, but it is not always easy to be just, wisely just, even to ourselves.

Pith of the Week's News.

Ex-speaker Crisp's son, aged 26, will be elected to succeed his father without opposition.

The line of the Southern Pacific Railroad is to be double-tracked between San Francisco and Palo Alto.

Mason Porter, formerly a gardener in the service of Daniel Webster, died at the age of 78 at El Monte, Los Angeles Co., Nov. 30th.

It turns out that one of the Bryan electors in this State has been elected. This is the third time that California has split her electoral vote.

Dr. J. H. C. Bonte, for many years Secretary of the State University at Berkeley, died last week. His successor has not yet been chosen.

At San Jose on Saturday, in a fit of jealousy, John C. Kelly, a San Jose jeweler, shot and terribly wounded his wife in the presence of her children.

Gen. E. L. Applegate, a famous Oregon pioneer and a unique figure in the political life of the Pacific Coast, died at his home in Ashland Nov. 30th.

The National Grange is right in its demand that the agricultural interests of the country be recognized by the appointment of a practical farmer as Secretary of Agriculture.

A London dispatch of last Friday says that another massacre of Armenians has occurred in the vicinity of Diardekair. Five hundred Christians are said to have been slaughtered.

Contracts for $3,500,000 worth of new vessels for service on the lakes have lately been made at Chicago, giving employment for at least two years to 35,00 mechanics who have been idle many months.

At Amador City last week Will Peyton killed in self-defense his sister's husband, Joseph E. Thomas. Thomas, it seems, made life unbearable for his wife, who went to her father's home. The husband followed, but his entrance to the father-in-law's house was resisted by Peyton, with the result as above stated.

A little girl five years old, daughter of John Kane, a stable worker, died in San Francisco on Sunday from drinking condensed milk. The poison was of a very violent kind and the child died in great agony.

The Iroquois Club, the chief Democratic organization of San Francisco, is taking measures to purge its membership of those who during the late campaign declined to support the regular Democratic nominee.

The "Greater Fresno" plan has failed, the people of the outlying districts declining very wisely to be taken under the corporation wing. They fail to see any adequate reciprocal advantage for the burden of municipal taxation.

President Diaz of Mexico has just been "inaugurated" for the fifth term. The Mexican constitution declares that the President is not eligible to succeed himself, but in the Spanish-American republics a little matter like that doesn't count.

The suggestion that Mr. Elwood Cooper of Santa Barbara be given the Secretaryship of Agriculture in the McKinley cabinet grows in favor with the people of California, and, if Mr. Cooper makes any effort to get the place, he will unquestionably be very strongly backed.

The Redlands *Citrograph* calls the attention of the Horticultural Inspectors to the fact that a supply of scabbed apples have lately been received in Redlands from the East. This scab is a fungus disease and not a scale, but it is contagious and spreads rapidly. The Redlands people would much better do without apples than to introduce this pest.

The inroads of hunters upon the habitat of the elephant in India and Africa have aroused a general fear that this useful animal will soon be exterminated. Measures will be taken in several places to provide suitable and extended breeding grounds under the protection of the Government. The elephant, excepting in very rare instances, does not breed in captivity.

At a dinner of the Maryland Sound Money League, given at Baltimore Saturday night, there was served a course of Madeira wine of the vintage of 1800, which came many years ago from the wine cellar of Thomas Jefferson. It is claimed that if the money that was originally invested in this wine had instead been placed in a savings bank and kept there, the amount which it originally cost to purchase a gallon would have grown to $1500.

Under the prospect of an administration in the United States favorable to their plans, the annexation movement in the Hawaiian islands is reviving. A recent declaration of the Hawaiian Legislature declares that "the Republic of Hawaii continues to be, as heretofore, firmly and steadfastly in favor of the annexation of the islands to the United States." Mr. Francis M. Hatch, the Island Minister at Washington, has just returned to his post for the winter.

St. Louis, November 24.—The wool merchants of St. Louis to-day took concerted action looking toward the securing of legislation believed to be for the betterment of the wool interests of this country as affected by the tariff laws. At a meeting called for the purpose, resolutions were adopted declaring the Wilson bill a failure and requesting Congress to promptly pass the Dingley bill. These resolutions were signed by the representatives of thirty wool firms and will be forwarded to Washington.

All kinds of reports come from Cuba, and it is pretty hard to determine definitely the condition of things there. It is believed, however, that the Spanish authorities suppress all news reports, but private advices indicate that Maceo has won a very considerable victory over the Spanish troops, killing some 2000 of them; but, while thus victorious, the Patriots are understood to be in very desperate straits. They are compelled to march and fight continually without rest, and are so badly nourished that many of them have contracted consumption. Maceo's encampments are said to be like hospitals.

In the United States Circuit Court on Monday Judge McKenna handed down his decision in the injunction case of the S. P. R. R. Co. against the California State Railroad Commission. It recalls somewhat the celebrated judgment by which the U. S. Supreme Court gave "the law to the North and the nigger to the South. By Judge McKenna's decision the constitutionality of the Railroad Commission is asserted; but its cut of 8 per cent on grain rates in California is nullified, on the ground that the road is operated at a loss and that such reduction is unfair. The net result is to tie the hands of the Commission and make its acts subject to review and nullification by the U. S. Courts. Just what service a railroad commission can do under these conditions, it is difficult to see.

Mr. Bryan visited Denver last week as the guest of a local free silver organization and was received with as much applause and general noise as if the campaign had ended the other way. The enthusiasm drew much of its spirit no doubt from the hope of better luck next time. Six thousand persons listened to Mr. Bryan's response to an address of welcome. He spoke, of course, of the financial question and much in the same strain as during his recent campaign. He declared that the fight had just begun and proposes to lead in a movement which he believes will culminate four years hence in a complete triumph for the free silver project. This event at Denver fairly starts the silver campaign of 1900. Mr. Bryan proposes very shortly to make a tour of the United States, including California and Oregon.

In the North and West this season is the most severe in the history of the country. In Oregon and Washington the rivers, including the Columbia and many smaller streams, are closed with ice, while the small bodies of water are everywhere frozen. Such severe weather, so early in the season, finds stockmen totally unprepared to protect their cattle, many of which are still on the range, and it is estimated that many thousands will perish of cold and starvation. In the region about the headwaters of the Missouri river the whole country is covered with snow and ice to the depth of 12 to 16 inches. Cattle by the thousand are unable to get food and are dying by droves. Many stockmen have large stores of feed, but owing to the sudden severity of the weather, are totally unable to distribute them in a way to relieve their stock.

The airship continues to hold its own as a subject of public discussion. It is alleged to have been seen in all parts of the State and the visual evidence in support of one such ship is quite as good for fifty. The only person whose talk may be considered serious is Mr. W. H. H. Hart, the well-known lawyer, who soberly declares that he is the attorney of an inventor who has recently built and operated two airships in this State and that he is now engaged in building a third. He has been able, Mr. Hart declares, to attain and sustain for several hours a speed of about twenty miles per hour and is making improvements designed to vastly increase the efficiency of his ship. Mr. Hart does not claim to have personally seen these ships, but he says they undoubtedly exist and that San Francisco will soon be given an opportunity to view them in broad daylight. A cock-and-bull-air is given to Mr. Hart's story by his addition to it that his client is negotiating with the Cuban junta for the destruction of Havana by dynamite and that he will demand for such services something like $10,000,000. People generally have come to regard the whole thing as a hoax, but there are many who assert that they have seen the mysterious air ship and are willing to stake any sum upon its existence.

The Orange Situation.

Early shipments of oranges from southern California will be in the neighborhood of 75 cars up to December 1st. They are shipped principally from the foothill fruit from Glendora to Riverside and are largely composed of navels.

The oranges are fairly well colored. The navels are not sour but will improve much in quality in the next sixty days. The seedlings are certainly sour, with a big "S." Redlands and Highlands are billing their navels at $2.75 f. o. b. and the seedlings at $1.75. Outside of these two places they are billing navels at $2.50.

At the above prices the market is weak and after the first early shipments are received these prices must go lower.

Porterville has shipped in the neighborhood of 50 cars, commencing November 8, and has made delivery navels at $3.25 and seedlings at $2 25. The fruit they have shipped has given excellent satisfaction for early fruit.

So far Jamaica has sold some 900 cars in this country and has about 350 still to ship.

Mexico has shipped 350 cars and still has 250 to go forward.

There are due in New York in Valencia and Messina oranges the first week in December about 45,000 boxes of oranges, and supplies from abroad will be heavy from this time on.

Sales are already made in many interior cities in the central West for Valencia oranges for December delivery costing in the neighborhood of $1.75 per box laid down.

This fruit is as sweet, which, to say the least, is very sour, as our seedlings, but does not compare with the navels, but at the price must have a very depressing effect on our prices.

The principal packers at Redlands and Highlands, at a meeting held on Friday, Nov. 27th, adopted as a standard car sizes running 96s to 216s for navels for the season 35% of 126s, 15% larger, balance smaller, any excess of undesirable sizes to be billed at the same reduction as off sizes. H. K. P.

Redlands, Nov. 30th, '96.

HORTICULTURE.

State Horticultural Convention.

The twentieth annual session of the State Fruit Growers' Convention met in the State Capitol in Sacramento on Tuesday and will continue through the week. Mr. Ellwood Cooper of the State Board of Horticulture is president and Wm. Johnston of Sacramento and D. T. Fowler of Fresno are vice-presidents.

The President's Report.—President Cooper of the State Board of Horticulture opened the meeting by the delivery of his annual report.

He called attention to the good that had been done during the past year in fighting insect pests by means of the ladybird. He said in part:

Our experience in fighting what was commonly called the white cottony cushion scale and the black scale should be sufficient to convince us of our ability to cope with these terrible pests, and now that we have a parasite, obtained by the expenditure of an insignificant amount, that will forever relieve us from any further fear of loss in this direction, we should be very derelict of duty to rest under the certainty of the approach of myriads of other enemies that may be equally dangerous and may baffle all our efforts in artificial remedies to destroy them.

There is only one way in which we can be secure, and that is in nature's remedy. In Santa Barbara county the fruit growers have practically abandoned all spraying and fumigating, excepting a few persons who have continued to fight in this way for want of faith and patience.

Continuing, the president said that the past few years have not been profitable to the fruit growers, and while they have not suffered as badly by the general depression as many other lines of business, still many losses have been sustained and general discouragement exists in every branch. Nuts, citrus fruits, olives, prunes, raisins, dried fruit and ripe fruit shipments have not been a source of profit to the growers.

He called upon the growers to unite and sell no fruit unless it brought a fair profit to the producer; praised the plan of establishing houses in the East managed by the growers, and suggested the establishing of American agents in foreign countries, to be paid a salary by California growers.

Committee Assignments.—Resolutions: J. Markley, Sonoma; P. J. Shields, Sacramento; R. C. Kells, Yuba City; B. E. Hutchinson, Fresno; P. B. Armstrong, Acampo.

Legislation: B. F. Walton, Yuba City; Professor S. M. Woodbridge, Los Angeles; George F. Ditzler, Biggs; H. P. Stabler, Yuba City; General N. P. Chipman, Red Bluff.

Marketing and Transportation: H. Weinstock, Sacramento; F. H. Buck, Vacaville; W. B. Gesler, Newcastle; D. T. Fowler, Fresno; William Johnston, Courtland; Sol Runyon, Yuba City; A. Block, Santa Clara; J. A. Filcher, San Francisco.

Discussion of Tariffs.—P. B. Armstrong spoke for the almond growers and read a memorial to Congress which has just been passed by them asking for a duty of 6 cents on shelled and 10 cents on unshelled almonds. He asked the fruit growers to indorse the memorial.

General Chipman objected, as he did not believe in division. He said that all growers should unite, as more would be accomplished. It was not well for wine men, almond growers, raisin and orange growers to fight separately for what they desired. He moved that a committee of nine be selected on the tariff. The motion was carried and the following were appointed: N. P. Chipman, Red Bluff; Frank A. Kimball, National City; W. W. Phillips, Fresno; N. W. Motherall, Hanford; F. M. Righter, San Jose; A. Block; Santa Clara; P. B. Armstrong, Acampo; and C. H. Allen, San Jose.

The committee will recommend the duty on raisins be raised to 2½ cents per pound, and that legislation affecting raisins shall extend to currants and dried grapes. Upon the recommendation of a committee from the almond growers' convention, shelled almonds will be placed in a more secure position from foreign competition by placing a duty of 10 cents per pound upon them, while the unshelled product will carry a rate of 6 cents per pound.

The committee will recommend that English walnuts, shelled and unshelled, be protected by a rate of 3 and 6 cents, respectively. After some debate it was determined to recommend that the tariff on prunes be increased to 2½ cents and figs to 3 cents per pound.

On oranges and lemons it is recommended that the tariff be 20 cents per cubic foot capacity on small packages; on fruit in bulk, $2.50 per thousand. The committee will further advise that the existing duty on sweetmeats, confections, etc., be raised from 30 per cent ad valorem to 40 per cent.

It is probable that the convention will adopt the report of the committee, in which event Congress will be memorialized to extend the protection asked for.

The olive growers held a short session immediately after the adjournment of the Fruit Growers' State Convention, the object being to discuss the feasibility of forming an organization for the protection of their interests. After a brief discussion a committee was appointed to confer with a committee from the Fruit Growers' Protective Association looking to an alliance with that body. It was the sense of the meeting that a separate and independent organization should not be formed at this time.

The committee met and finished the work assigned to it. In the report to be presented to the convention it will recommend that several changes be made in existing tariff rates on olives. The report will advise that the duty on olive oil, which is now 35 cents per gallon, be raised to $1 per gallon, and that a duty of 20 cents per gallon be placed on pickled olives.

The duty on olive oil will extend to what is technically known as "foot," which is the product in its crude state. This action is deemed necessary in view of the fact that the payment of the present duty is evaded by foreign manufacturers, who ship their oils to the United States in a crude state and here refine them. The present tariff does not contemplate an import duty on any but the refined product.

NOTE.—As the RURAL goes to press, the convention is in the second day of its session. The report of its doings will be complete in next week's paper.

Cultivation of Irrigated Foothill Orchards.

TO THE EDITOR:—At the Fruit Growers' Institute, recently held at Newcastle, the subjects "Cultivation" and "Fertilization" were briefly discussed, and in this discussion frequent reference was made to the "leaching" of the soil of foothill orchards. The discussion started questionings in my mind which I had no opportunity at that time to have answered, and which I now wish to bring before RURAL readers for discussion. Let me say, in preface, that these questions refer only to irrigated fruit orchards in foothill districts of California.

Course of a Foothill Orchard.—As far as I have been able to observe, the history of an average fruit orchard in such a locality is about as follows: A suitable piece of virgin soil is cleared of timber and underbrush, graded, plowed, surveyed and set to trees. At this time the soil is, ordinarily, in a high state of fertility. For two or three years the soil is thoroughly cultivated through the spring season till after the last rain, and receives little or no irrigation at the option of the owner. After the trees commence bearing they are given considerable water throughout the summer season, in addition to the spring cultivation. They bear a certain average number of pounds of fruit per tree for a certain number of years, after which time they cease to be profitable, and are dug out and replaced with new ones.

Why Is This So?—Now during all this time the leaves from these trees have fallen about their roots, a certain amount of grass has partly reached maturity and been plowed under, the irrigating water has deposited some sediment, and after the fourth or fifth year considerable quantities of fertilizers have been applied, and still, at the end of the period spoken of, the soil is very much less fertile than it was when the trees were first planted. The question is, Why is this so?

Current Reasons.—Some one hastens to tell us that it is because of the drain on the soil to support the crop of fruit which is taken away from the orchard each year, leaving nothing of a fertilizing nature in its place. Now, it does not appear reasonable that ten-inch peach trees, eighteen feet apart, even bearing heavy crops annually, could be nearly so heavy a drain on the soil as one-inch to three-feet oak, pine and other kinds of trees standing so thickly that one can hardly wriggle through them, and bearing considerable crops of acorns, buckeyes, etc.

Someone else says that the exhausted condition of the soil is due to its being "leached" by the water. What water? If by the irrigating water, why is it not proportionately leached by the ten times greater quantity of rain water? If by the rain water, why are not the virgin hillsides also leached by it? If that were so, our hills, which started out originally barren piles of rock, have been getting poorer and more barren ever since. If there really is anything in this idea of cultivated soils leaching it must be because they are cultivated, which is a point worth remembering.

These Views Not Satisfactory.—Neither of the foregoing answers seems to afford a satisfactory solution of the problem. Now, though I have always heretofore been an advocate of thorough cultivation in orchards, I now verily believe that, giving the orchard equal care in other respects, but not cultivating, and spending the money formerly used for cultivation and fertilizers for more water, while *not removing* any of the grass, the soil would be more fertile at the planting of the second generation of fruit trees than it was at the planting of the first. I have seen people try to run an orchard without cultivating, and still using as little, or less, water than they used when cultivating. This plan, of course, was a failure, because the cultivation serves to retain a part of the winter moisture in the soil.

Early Conditions.—Pioneers tell us that in early days, before this country was tramped over by thousands of cattle, or cultivated, there was a heavy growth of grass from 2 to 4 feet in height, almost everywhere, and that the soil was so loose that one could scarcely go out of a beaten path, in winter, without swamping.

Given plenty of water in summer and proper pruning, etc., and these primeval conditions must surely be ideal for fruit trees, as well as for other kinds; and, further, it would surely appear that, when the second or third generation of trees was planted, the soil would have as much, or more, humus than when the first was planted, and that rotation of varieties, at most, would be necessary to insure the best possible results.

Nitrogen Gathering Plants.—We were told at the Institute that "burr clover" is the best agent for this country in drawing nitrogen from the air into the soil. Now, in ordinary cultivation this clover is plowed under before it seeds, so that the crop for the following year must be seeded by chance if at all. Were it not plowed under, but left to mature, fall and decay naturally, it would deposit more nitrogen, besides seeding the ground well for the coming year.

We all know how much cultivation tears roots, barks and breaks trees, knocks off green fruit, etc. We also know, every one of us, of some lone tree in an out-of-the-way fence corner that only has pruning and water, and still bears more and better fruit than most of its cultivated sisters.

Cultivation is all right for grain, vegetables, etc., and where it will enable soil to carry enough winter or subsoil moisture through the summer to supply fruit trees, but where irrigation is necessary at all I believe that it is an error. I would like very much to hear from experts on the matter.

Newcastle. GERALD GERALDSON.

Further Account of the Meacham Frost Fires at Riverside.

Continuing the subject of protection against frost as one of the subjects of the greatest interest to California growers of citrus fruits, grapes and tender deciduous tree fruits, we come to a fuller consideration of the Meacham frost fires, briefly described in the RURAL of November 21. Mr. E. W. Holmes, who has taken the deepest interest in frost fighting for years back, gives a very interesting description of the Meacham experiments in last week's issue of the Riverside *Press*.

The Methods Tried.—They had arranged several

rows of pots containing crude oil, over which were stretched wire netting upon which was spread wet straw. Barrels of water were located convenient, so as to keep the straw moistened.

Upon another section of the orchard were rows of suspended wire baskets, each containing about ten pounds of coal. There were apparently about twenty of these to the acre.

In another row was an experiment with wet baled straw, in which fire was started by pouring kerosene upon it.

Near this was a quantity of wet peat, ignited in the same way, and used in connection with moistened straw.

The Coal Baskets.—These were set on fire at about 5 o'clock, and were still burning at 8:30, without having required any special attention. The heat generated did not appreciably affect the temperature of the orchard, and the smoke was much less dense than that given off by the other fires. This is the most easily handled of any method, and by the saving of labor and definiteness of expense involved is most attractive to the orchardist who depends entirely upon his own exertions at the critical time. I am inclined to believe that a much larger number of baskets is required if these baskets are to be used alone. Whether the larger use will not involve expense equal to the other plans is a question. I think that it would be better not to increase the number, but to use them in conjunction with some steam producing appliance.

The Oil Pot.—The oil pots blazed up hotly when set going, and the flame, filtered through the dense moist straw or manure, set afloat a white cloud that drifted low through the orchard, and remained suspended among the trees until it had floated a long distance to leeward. Of the value of this method there can be no question; but the labor involved in keeping the straw properly wet, the pots from boiling over, or the fire from going out is considerable. It is also—in spite of the fact that the straw served as a filter and held an immense proportion of the lamp-black—a dirty method for those engaged in the work.

The Baled Straw.—The wet baled straw, while furnishing a less amount of heat and steam, required comparatively little attention. It is the cheapest of the three referred to, as the straw or stable bedding is not expensive, and if unused is worth all it costs as a fertilizer. Nearly every ranch affords the means for such a fog-producing method, and those who are deterred from assisting in a general effort on account of the expense, are likely to give this a trial.

The Peat.—The experiment with the peat seemed to me hardly as satisfactory; but some better way of using it may be devised. [Mr. Cutter says that a piece of peat three inches thick and large enough to cover one of the Copley (coal basket) fires was saturated with water and laid directly on the burning coal. It had the effect to break the column of heated air, that was rising vertically, and to cause a lateral diffusion. This diffusion was materially aided by the vapor yielded from the peat, the steam naturally preventing its rapid escape into space, and holding it down among the trees. This experiment was favorably commented on by those who saw it.

The Results.—The cloud of moisture and smoke drifted for a mile or more down the valley, and showed no disposition to rise as is the case when hot fires have been built. The temperature in the orchard was not raised as much as I anticipated by the numerous fires, and this was at first discouraging.

The Moisture an Important Factor.—I found the trees in the center of the grove fairly dripping with moisture. Calling attention to this as an evidence of the good accomplished, a friend urged me to examine the trees outside of the area of the fires. I found that ten rods distant, and not in the line of the drifted smoke, there was also moisture upon the foliage. But immediately upon reaching my own grove, a mile distant, ten minutes later, and before sunrise, I found the foliage everywhere absolutely dry.

The mercury had not been raised in the grove appreciably by the many fires, but the question immediately occurred to me, that I had discovered a result which might promise us security. If the thermometer had indicated 32° instead of 40°, and the general conditions were such as to send it to 26° without the use of steam smudge, would not the presence of all this immense quantity of moisture in the atmosphere, produced by these local causes, so nullify the effects of the general condition as to preserve the tenderest fruit and foliage from freezing? I think it would. If not, then I am inclined to believe that no method at our command is of value.

I conclude, therefore, that no method is worth considering that does not include the generation of steam, and that whether we use coal, crude oil or any other fuel, we need to join with it some plan that shall fill the air with moisture. The coal baskets are the easiest worked, and why cannot a proportion of them be so arranged by the placing of wet straw or manure above them upon a bit of corrugated iron as to use the coal in producing steam as well as heat.

ENTOMOLOGICAL.

Prof. J. B. Smith's Observations on the San Jose Scale.

To the Editor:—My attention has been called to a notice in the Pacific Rural Press of November 7th of my Bulletin No. 116 of the New Jersey Experiment Station on the San Jose scale. Your review of my conclusions is excellent, and I could not possibly find fault with anything you say there; but in the comments there are one or two points to which I would like to have the privilege of replying.

It may be well, first, to state that in the bulletin mentioned I have given only the briefest kind of synopsis of the results of my observation—just sufficient to explain the reasons for recommendations made elsewhere in the bulletin. My full report on the subject will go into details very much more thoroughly and will afford the opportunity for a better judgment of what observations I actually made. Further, I really am much more familiar with the climate of California than your comments would suggest. I am perfectly aware that there are points far down in California along the coast where the climate is much milder than it is in the interior farther north. It is nevertheless a fact that in some of the desert regions of southern California, or perhaps more properly southwestern California, we find among the hottest regions in the world. It is furthermore certain that in regions of that kind the San Jose scale is unable to maintain itself. There are parts of New Mexico and Arizona into which the scale has been introduced and has died simply because the climate was too dry and hot for it. Now, I am perfectly aware that many points in southern California do not have that kind of climate, and in fact all along the coast from San Diego to Santa Barbara, notably the latter place, we have a climate that is remarkably even throughout the entire year. In such places the scale does well, except for a very brief period during the summer.

It should be explained, perhaps, that my term southern California is intended to include everything south of San Francisco, and I think that appears sufficiently from the bulletin, taken as a whole. It is definitely stated in my report. Both San Jose and Fresno are among the places included in my term southern California. I did visit San Jose and so stated in my bulletin, and you are quite correct in stating that there are plenty of orchards there in which no spraying has been done for years past. Further, this same condition of affairs exists as far north as Berkeley and perhaps even a little farther.

In my term northern California I include everything from Sacramento northward, but make a special claim for the Sacramento river valley, and I think my statement will be found correct, that in these regions spraying is almost exclusively depended upon. I found at Marysville and at Yuba City and far to the east and to the west, according to the people with whom I had conversations, that spraying was the rule everywhere. Furthermore, I do not think that it is quite just to say that one of my conclusions is "that at the south it was mainly the heat that accomplished this." I think it was the heat aiding the other natural enemies that did the work, and the reason for my dwelling upon this point to any extent was to bring prominently before the farmers of New Jersey that there was one factor which we could not import into New Jersey that was a vital one in enabling the natural enemies to control the San Jose scale.

There is only one other point in the matter. My mission to California was a very definite one. It was directed to one point only and was for the benefit of the farmers of the State of New Jersey. My object was to ascertain why it was that in California natural enemies succeeded, where in New Jersey they had shown no ability to attain the same results. It would have been absurd for me to have expected to learn in a month or six weeks facts that would become important to the California fruit grower. I did, however, in that time ascertain just exactly what I wanted to know for our New Jersey growers. I beg you, therefore, to judge my work by its extent, and the results by the object with which it is done, and furthermore to await my full report on the subject before suggesting that I might not be sufficiently familiar with certain factors in the problem. John B. Smith.

New Brunswick, N. J., Nov. 18th.

[We are exceedingly glad to have this statement from Prof. Smith. Our comments upon the extract we made from his bulletin in the Rural of Nov. 7th were perhaps a little hasty and if so, it must be attributed to the fact that we had hoped that he would be able to discover something which had not been disclosed to California students of the subject. Of course, a part of our trouble arose from the peculiar geographical division which Prof. Smith made, for to bring the northern line of southern California up to San Francisco is startling, but not so bad after all, for nearly the whole of the State has a right to the gentle adjective "southern." We shall be pleased to refer to this subject when we shall have Prof. Smith's complete report for pleasurable perusal.—Ed.]

THE DAIRY.

Barley Silage From San Luis Obispo.

The University Experiment Station at Berkeley recently received a very good sample of barley silage sent from the estate of E. W. Steele, Edna, San Luis Obispo county, by Mr. D. D. Barnard, manager, to ascertain the nutritive standing of the material. It was put into the silo just as it was mown in the field, and reached the station in good condition, fragrant and acceptable in flavor, even to the human palate. The specimen was taken in hand by Prof. Jaffa, and after careful investigation he sent the following report to Mr. Barnard:

Comparative Analyses.—The following tables show the composition of the barley silage, analyses of corn silage and clover silage being annexed for purposes of comparison:

	Barley Silage.	Corn Silage.	Clover Silage.
Water	80.00	70.62	72.00
Crude Protein	2.07	2.70	4.20
Fat	.79	.72	1.20
Nitrogen-free Extract	7.53	13.69	11.60
Crude Fiber	7.50	9.68	8.40
Ash (Mineral Residue)	2.11	2.59	2.60
Total	100.00	100.00	100.00
AMOUNT DIGESTIBLE IN 100 POUNDS.			
Crude Protein	1.45	1.43	2.00
Fat	.63	.58	1.00
Crude Fiber	3.75	4.84	4.40
Nitrogen-free Extract	6.02	9.56	9.20
Nutritive Ratio	1 : 7.7	1 : 10.0	1 : 7.9
Fuel Value in 1 Pound (Calories)	234	329	328

Comments.—From the above table it will be seen that clover silage is the richest in flesh-forming ingredients (crude protein), corn and barley rating, for this nutrient, practically the same. The carbohydrates (nitrogen-free extract and crude fiber) in the clover and corn silage do not differ materially in amount, the corresponding figure for barley silage being about 50 per cent lower. It is similar with respect to the fuel value of the fodders. The corn silage has a wider nutritive ratio than either of the other two. This is due to the fact that, while it contains practically the same amount of starchy material as clover silage, the flesh-formers are present in smaller quantities. In the case of barley silage the protein contents are identical with those of the corn, while the percentages of the carbohydrates are much lower. Hence the nutritive ratio of the barley silage is much narrower than that of the corn.

Reduced to Same Water Contents.—It must not be forgotten that while the water percentage of corn and clover silage is in each case about 70.00 that of barley is 80.00. If we reduce barley silage to practically the same per cent of water as that given for corn and clover we would have the following:

	Barley Silage.	Corn Silage.	Clover Silage.
Water	70.00	70.62	72.00
Crude Protein	3.10	2.70	4.20
Fat	1.19	.72	1.20
Nitrogen-free Extract	11.29	13.69	11.60
Crude Fiber	11.25	9.68	8.40
Ash (Mineral Residue)	3.17	2.59	2.60
Total	100.00	100.00	100.00

Conclusion.—An inspection of these figures shows that, with almost identically the same amount of water, barley silage is richer than corn and ranges but slightly below clover silage in nutritive value.

Cheese Factories in Southern California.

By W. W. Cocke of Downey, at the recent meeting of the Southern California Dairy Association.

In southern California there are some seven or eight cheese factories. Altogether these factories turn out about 600 tons of cheese a year, valued at nearly $120,000. Several of these factories are combined with creameries and only make cheese for a short time during the heavier milking season which comes in April and May. Two or three are private dairies and receive no outside milk; while only two, so far as I know, receive milk from the farmers and

run all the year. One of these is the Anchor cheese factory, located at Compton, where they handle from 12,000 to 15,000 pounds of milk daily and have from 100 to 120 patrons. The other is the Star cheese factory, located at Downey, where they handle from 5,000 to 8,000 pounds of milk daily and have from 25 to 35 patrons. The milk is received at the factory once a day, a composite sample is taken and, I am sorry to say, the whey goes home in the same cans that the milk came in.

Process.—The process of manufacturing is very similar in all the factories. The rennet is added at 86 degrees, three ounces of Hansen extract of rennet and one ounce of coloring being used to each 1000 pounds of milk. The curd is cooked to 98 degrees and as soon as it will show about one-fourth of an inch spin on the hot iron the whey is drawn and the curd stirred by hand until ready for the hoop. The cheese is marketed at about three weeks old, the trade demanding a very mild rich cheese. The local market consumes all of the local cheese and about as much more of Northern and Eastern cheese of a stronger kind.

Cost.—The cheese maker receives from one-half to two cents per pound for making, and he stands all the expenses of making, marketing and also the common two per cent off. With this expense deducted, the patrons receive their money the first of each month, the net proceeds being divided according to the amount of milk and the Babcock test. The price of four per cent milk for the year is about $1 per hundred.

Yield and Feed.—The average farmer runs his farm for the pleasure of it and keeps a few cows to pay the current expenses and have a little ready cash. The number of cows will vary from two to twenty in most cases. The average yield of milk per cow is between fifteen and twenty pounds, the average test about 40 per cent, while there is great variation in individual cases. The stock are mostly grade Jerseys, Holsteins or Durhams. The feed consists chiefly of alfalfa, beets, corn fodder and pumpkins. The cattle are fed mostly in open pasture, very few farmers providing shelter for their stock in winter. They are fed, too, with more regard for the feed on hand than for the needs of the cattle. And I am sorry to say that the majority of farmers do not realize the great importance of good milk. They seem to feel that so long as they can get their milk in the factory without the cheese maker finding anything wrong they are all right.

Needs.—The climate is so favorable to the keeping of milk that it leaves room for carelessness, which is sure to work disaster to the quality of our cheese and hurt the farmer in the end.

We have a lovely climate, fine feed and a market that will pay the top prices for an A. 1 article. The one thing needful to successful and prosperous dairying in southern California is that the farmers wake up to the importance, *to the necessity*—of better care for their cattle and of furnishing nothing but clean, sweet well flavored milk.

METEOROLOGICAL.

Periodicity of Good and Bad Seasons.

Now that we are well started upon what promises to be one of the most productive years California has ever seen, it is interesting to give a thought to current speculation upon the intervals in which good and bad seasons are likely to occur the world over, and what regulates their occurrence. Such speculations have not yielded much prophetic power hitherto it must be acknowledged, and yet, as Prof. Abbe of the Weather Service well states, "the importance of long-range predictions to the agricultural interests of the United States demands that we give our careful attention to their possibility." This remark is used by Prof. Abbe in connection with the announcement that H. C. Russell, director of the Astronomical Observatory at Sydney, has discovered that there is in general a 19-year periodicity in the occurrence of drouths.

Mr. Russell's Data.—Mr. Russell began by studying the statistics of the records in Australia since 1788, the date of the foundation of the colony of New South Wales, and here first found evidence of a 19-year period. He next found that the droughts of India coincided with those of Australia, so far as the records went, and that he could, by means of the Indian record, plausibly locate the greatest of all the droughts in Australia as having occurred in 1769-70. Up to this time he had not studied the ordinary dry years separately from those in which phenomenal droughts occurred, but had found that bad or droughty years usually came in groups of from three to seven. The end of the first and the beginning of the second year of drought was the date used by him in his studies.

Study of European Records.—Mr. Russell divided the droughts into first and second class, treating each separately, and proceeded to study European statistics. Between the years 900 and 1896, A. D., the interval of 996 years embraces about fifty-two periods of nineteen years each; he found that of the fifty-two repetitious of years when droughts should be expected they were actually present on forty-four of these; of the eight missing years, six occurred between 900 and 1000, A. D., when the historical record is very incomplete. Starting with 1896, and reckoning backward to 900, Mr. Russell found seventy-eight droughts in different countries somewhere in the world that fit into the period of recurrence of droughts of the first class. During the same period he found that there should be fifty-one returns of the year that is characterized by second-class droughts, and that history actually records eighty-nine such droughts in different countries on thirty-six of these periods. There is, therefore, a total of 167 droughts between the years 900 and 1896 that occur on the years when droughts are to be expected, according to Mr. Russell's 19-year period, and there remain only forty-one other droughts on record, scattered through various discordant years; of these latter, twenty-six are considered by him to belong to a third class, that is irregular in Australia, but more regular and more important in the Northern Hemisphere. Mr. Russell, therefore, claims that out of 208 recorded droughts, 193 fit into his cycle of nineteen years, and that as this cycle has continued for a thousand years, so it may be trusted to justify forecasts based upon it.

A Dip into the Remote Past.—Going farther back in history, Mr. Russell finds that of 20 droughts recorded in B. C. years, nineteen fit into his drought cycle, and the fact of such a remarkable agreement is urged as a confirmation of the historical chronology, although it seems reasoning in a circle. The drought predicted to Pharaoh by Joseph apparently belongs to the same period as that predicted by Elijah forty-two cycles (or forty-two times nineteen years) later; the drought predicted by Elisha occurred nineteen years, or one cycle, after that of Elijah, and these ancient predictions seem to Mr. Russell to show that the Egyptians and Jews knew of this 19-year period. He even considers it possible that the records kept by the Assyrians since the year 3800 B. C. must have shown them this 19-year period in droughts, as it is known to have also shown them the similar period of eighteen years in eclipses.

Red Rain Coincident with Droughts.—Mr. Russell further finds that red rains, due to red dust floating in the atmosphere, argue the prevalence of very dusty weather; at least, it is true that in New South Wales red rain and red dust immediately attend severe droughts. He finds that, beginning with the year 738 B. C., there were sixty-nine recorded falls of red rain, every one of which fits into his 19-year cycle. If these were really due to droughts, then they add ten more records of drought years to the 193 quoted above, and leave only five years on which no droughts are recorded out of 208 in which they should have occurred according to Mr. Russell's cycle. But, furthermore, Mr. Russell states that great hurricanes, great frosts, and even the wet years and the fluctuations of the great lakes of the world, all fit into this cycle.

The Moon is the Culprit.—Finally, he suggests that, as these statistics all point toward a lunar influence, he has, therefore, examined this subject with the following results:

1. Great droughts of the first class occur in the years when the dates of eclipses accumulate near March 21st and September 21st.
2. Doughts of the second class (of shorter duration, but more intense than those of the first class), together with gales and hurricanes, occur when the dates of eclipses accumulate in February or just before March 21st, and in August or just before September 21st.
3. Droughts that are less severe in intensity than those of the first class, but last much longer than those of the second class, occur when the dates of eclipses accumulate in April or just after March 21st and in October, or just after September 21st.

Prof. Abbe's Views on Periodicity.—Prof. Abbe, after making the foregoing abstract of Mr. Russell's claim in the *Monthly Weather Review* of the Department of Agriculture for August, proceeds to analyze the claim, remarking first upon the general proposition of periodicity. For some years past the search for periodicities in meteorological phenomena has apparently abated; the small value of the so-called sun spot or 11-year period in recent years seemed to show that after all there were no important astronomical periodicities in meteorology, and students have therefore directed their attention more to the complex results that flow from the variations of moisture and of insolation combined with the irregularities of the earth's surface. It has, in fact, been very plausibly shown to be probable that no long-continued periodicity can be maintained in the atmosphere by the annual and diurnal changes in insolation, and that if such periods exist they must be maintained (or their existence must be forced) by the direct action of some external body. Inasmuch as the 11-year sun spot and the 28-day lunar periods are rarely appreciable and inasmuch as Laplace has shown that solar and lunar semi-diurnal tidal waves in the atmosphere, due to the action of gravitation, must be inappreciable it would seem that there is very little reason left to expect any other periodicity to be forced upon the atmosphere. On the other hand Mons. A. Poincare, of the Meteorological Society of France, by a laborious study of the daily international maps of the Northern Hemisphere showed that there is a small systematic periodic northward and southward movement of the large areas of high pressure that form a permanent feature of the Atlantic and Pacific oceans, and that this movement depends upon the movement of the moon from the north to the south side of the earth's equator, or *vice versa*, in the course of its monthly revolution around the earth in its own orbit. This oscillation north and south of the tropical areas of high pressure is therefore a semi-monthly or 14-day lunar tide. By virtue of this tide the regions of easterly trades and of westerly winds have their boundaries periodically displaced and any one station near their boundaries would probably experience a variation in the intensity and direction of the wind depending upon the lunar month; probably a similar variation in rainfall and cloudiness would also be found for such locations, but not necessarily for the world in general.

Sun and Moon Act Together for Local, Not General Results.—It is evident that when the sun and moon conspire—that is to say, when both are north of the equator, or both south—these tidal influences will be most conspicuous, and this is what happens when eclipses occur. Inasmuch as eclipses recur every 18 years and 11⅓ days, one would therefore naturally look for an 18-year period superposed upon the lunar monthly period already indicated, and this 18-year period would show itself not only in the time of occurrence, but especially in the intensity of the disturbances. For example, if the high area, with its northeast winds and clear skies, which brings dry weather to Spain and Portugal, moves eastward or northward whenever the moon is farthest north of the equator, and especially so when the sun is also farthest north, then this combination (which occurred on the 28th of June, 1878, and on the 8th of July, 1896) should mark the year when droughts may be expected in that region. Of course, the rainy regions are also pushed farther north in Europe and Great Britain. During the whole of the years 1878 and 1896 the moon attained extreme northerly and southerly positions, and under the tidal influence of the moon there was a tendency of the areas of high pressure throughout the world to assume a more northerly position than in 1887, which is midway between.

The Moon's Influence More Definitely Stated.—If the semi-monthly lunar tide, explained in the previous paragraph, has any influence on the tropical areas of high pressure and on the weather at their boundaries, then when the moon is persistently farthest north in combination with the sun, as in the summers of 1878 and 1896, we ought to have relatively warm, clear, dry weather in western Europe and on the west coast of North America; relatively cold and rainy weather south of latitude 40° S. in Australia and South America; relatively dry, warm and clear in the rest of Australia, in southern Africa and on the west coast of South America. It is plausible that by assembling a large number of predictions, based on the general circulation of the atmosphere, one may demonstrate that, during the last half century, or since the beginning of the publication of daily weather maps, there has been an appreciable connection between the motions of the moon and the general character of the seasons on the borders of the great areas of high pressure. Inasmuch, however, as the lunar tidal influence can stimulate the production of rain in one region of the globe while it simultaneously produces drought in another, therefore one must be very careful not to consider the droughts in any two regions as confirmatory of the lunar influence unless these regions have the proper geographical situation relative to the areas of high pressure and unless corresponding unusual rains occur in other properly located regions.

Causes of Droughts.—As a rule, droughts that are sufficiently severe to seriously affect crops or produce famine are, in the United States, the culmination of several years of rains so light that the ground has become dried out to a considerable depth; they are, however, distinctly of a local character, rarely covering twenty-five square degrees. They represent small spots of great deficiency, while a larger area of general deficiency exists near by, and other areas of excess exist farther away. From our limited point of view we consider the locations of these areas to be determined by accidental causes, the general outcome of which is the formation of areas of descending air, clear sky, and less than normal rainfall. But there are some cases in which the drought is due to the weakness of the horizontal wind, as in India, where a failure of the southwest monsoon—or in the island of St. Helena, where the failure of the southeast trade, or the Barbadoes, where the failure of the northeast trade—is disastrous. These are cases where the ordinary rain depends directly upon the ascent of air that is pushed from the lower stratum up over hills and mountains. One should be very careful about combining the records of droughts in these localities with records from regions where rainfall is due to more general causes. Again, the records of famine in lower Egypt have little or no relation to the rainfall in that country, but depend entirely upon the proper utilization of the annual overflow of the Nile, whose waters come from two sources, Abyssinia and central Africa. This water supply of the Nile depends, like that of the Mississippi, upon two or three rainy regions, each of which is governed by its own laws.

DISTRIBUTION OF SEEDS AND PLANTS.

University of California, Agricultural Experiment Station Bulletin No. 112.

By E. J. Wickson, Associate Professor of Agriculture.

The branch of the station work which deals with the introduction and acclimation of economic plants made notable advancement in public favor during the year now closing. The wide recognition of the importance of the demonstration, attained at our Tulare Station, of the success of the Australian Salt Bush (*Atriplex semibaccatum*) on strongly alkaline soils was highly gratifying and was likewise a considerable tax upon our time and material. Similar experience was had with the tobaccos and, in a less degree, with some of the other growths offered last year. When it is remembered that we do not conduct a free distribution and that, besides paying the cost of what he receives, each applicant specifically assumes the obligation to report the results of his seed or plant trial, the advance in popularity which the figures indicate is notable:

Year.	*No. Applicants.*	*No. Postoffices.*	*No. Counties.*
1893-4	410	329	48
1894-5	925	382	53
1895-6	1,504	486	54

This increased demand clearly shows that our plan of distributing to volunteer experimenters plants or seeds of those growths which seem most promising after trial upon the grounds of our own stations, commends itself more and more each year to the people of the State.

AIMS AND METHODS OF DISTRIBUTION.

To reduce as much as practicable the vast amount of correspondence which is entailed upon the station by the distribution, we desire that the following points should be carefully considered by all applicants:

First—Do not apply for seeds or plants unless you will report results of trial from time to time, until the success or failure of each growth is demonstrated.

Second—Do not apply for things not mentioned in *this* bulletin. We cannot usually supply things previously offered for distribution. Do not apply for common garden seeds, fruit trees, or ornamentals, which can be purchased at seed stores or nurseries. We cannot supply them.

Third—Do not make a general request "for anything which will do in this locality." Apply specifically for what interests you, or may prove of value to you.

Fourth—We cannot undertake distribution to citizens of other States, except in exchange for something which we desire for trial.

Fifth—We require the applicant to pay a small amount for each thing received, partly to bear the cost of distribution, but chiefly as a guaranty that he has not merely an idle desire for what can be had for nothing, but intends to make trial for a definite end and will report results to us.

Terms.—For the reasons above stated, applicants are requested to send the amount specified in connection with each description below to meet the expenses of packing and postage. If they desire seeds sent by express, applicants need not send the amounts specified for postage, *but all orders for* seeds *by express* must be accompanied by a remittance of one-third of the amount specified, to pay for packing. *Express charges are paid by the recipient.* Applications may be made for one or more kinds of seeds, *but an applicant should not order more than one package of a kind.* If the supply of any kind of seed becomes exhausted the money will be returned, unless a second choice is mentioned by the sender. Postal notes are requested instead of stamps, whenever practicable. Any surplus left after filling orders will, as far as possible, be returned to the senders, deducting letter postage.

SELECTED RESISTANT VINES.

It has been known for years that American wild vines are characterized by very marked differences in degrees of resistance to phylloxera, and especially in adaptability to soils. More recent investigation has shown that not only species differ in this respect, but varieties of the same species show widely different characteristics. For example, the French investigators, after having determined the best species for different soils and situations, proceeded to make close observation upon individual plants of the species, and in due time perceived varietal differences in plants of the same species, and selected those with most promising variations for further trial. As a result of this process of selection they secured varieties which are far above the average of the species in vigor of growth and development, degree of resistance and general suitability for resistant root purposes. Of the few varieties which have thus demonstrated particular excellence in France we have obtained stock of four varieties which promise best under California conditions, viz:

(1.) For dry soils—that is, soils likely to become somewhat dry in summer—the Rupestris "St. George."

(2.) For deep, moist and tolerably rich soils, Riparia "Gloire de Montpellier," "Grande Glabre" and "Martin."

We desire applicants for these vines to consider carefully the nature of their soils before making selection for trial. It should be kept in mind that the *Riparia will not stand dry soils;* but, if the soil is moist enough, it is to be preferred to the Rupestris, which is slightly more difficult to graft and suckers more freely. If there is any tendency to dry out in summer the Rupestris, though harder to graft, will grow finely where the Riparia will prove a loss.

It must be understood that these vines do not bear edible grapes: they are merely intended for roots on which to graft the desirable table and wine varieties. It is expected that recipients will not graft at once the vines we send, but will grow them for several years to produce cuttings of their own kinds to extend the planting of resistant vineyards as rapidly as possible. It is advised that the first cuttings from these vines be planted in different parts of the vineyard, to ascertain whether the root is really adapted to the soil and situation.

We have two Riparia varieties as rooted vines, and they should be deeply planted and the soil loosened well beneath to facilitate the deep penetration of the roots. Cuttings of the three Riparia varieties for grafting with a view to obtaining wood for next season's planting will also be furnished. The Rupestris St. George will be distributed as cuttings, which, like the Riparia cuttings, should be grafted into any strong old vine that may be available, so as to force a growth of the resistant wood for subsequent rooting. Suckers and weak growth should be suppressed to throw vigor into a few strong canes from which good cuttings can be made.

We propose to *divide* our supply of vines and cuttings as *equally as possible between applicants.* Those who desire resistant roots for both dry and moist situations may have a share of both Rupestris and Riparia. We require from each applicant a statement of the character of the soil and location of the vineyard for which resistant roots are desired. Each applicant will send with his application 25 cents to pay for packing, and the vines will be sent by freight or express, the *charges to be paid by the applicant.* If a single vine of each kind is desired for small scale experiment, the 25 cents will pay for packing and postage. It is not expected that these vines will be distributed before February, but orders should be sent in at once. The vines and cuttings will be thoroughly disinfected before sending out.

TABLE GRAPES FROM PERSIA.

Though we have propagated these varieties as rapidly as possible, we have not yet been able to supply all applicants. They are grapes of the table lands of Persia, which have won praise from all travelers who have eaten them. The vines are of the *Vitis vinifera*, but the fruit has quite a distinctive character when compared with the varieties chiefly grown in the west of Europe. Professor H. E. Van Deman, ex-Pomologist of the Department of Agriculture, secured, thorough the kindly aid of Hon. E. Spencer Pratt, ex-Minister to Teheran, an importation of the best Persian varieties. These vines were in part entrusted to this station. Those varieties which we have fruited ripen very early, about with the Sweetwater, and as they are much firmer fleshed and tougher skinned than that variety, some of them may prove of high value for early shipping. The berries of the varieties we have fruited thus far are of large size, long-oval form, and good quality.

1. *Paykaynee Razukee:* Bright red, large, long, few seeds.
2. *Dizmar:* Light yellow, very sweet, long, tapering.
3. *Kahlillee:* Said to be the earliest in Persia.
4. *Askaree:* Widely grown in Persia and used both for table and drying; black, resembling Cornichon, but considerably earlier.
5. *Rish Baba:* Also a leading variety in the Orient for table and drying, and said to keep until spring.
6. *Hutab:* A large, sweet grape.
7. *Shiraz:* Named for one of the most important grape regions of Persia, where it is a leading sort.
8. *Alhakahee:* Red, said to be suited for long keeping.
9. *Chavooshee:* Green, a rare variety in Persia.
10. *White Shahanee:* Large, oblong, light color.
11. *Black Shahanee:* Presumably like the preceding, except in color.
12. *Unnamed Varieties:* We have eight varieties which, in the importation, were designated only by numerals. They are probably as desirable as the others. After fruiting it may be possible to name them if good Persian descriptions can be obtained. If not, they may be given local names.

We will send one vine of each kind at the rate of 5 cents for each variety ordered, by mail, postpaid.

DESIRABLE EUCALYPTS.

Although some parts of the State, notably the southern counties, have made commendable progress in distribution of eucalyptus species, it may be truly said that Californians generally only know a few of the species which were distributed through the nursery trade many years ago. At the University Forestry Station at Santa Monica a number of the less known eucalypts are now bearing seed, and furnish material for distribution which, we trust, will bring trees into the possession of those who might not otherwise obtain them, and thus wider experimental data of the desirability and adaptability of the species can be secured. The following brief descriptive notes of the sorts we offer this year are prepared by Mr. J. H. Barber, foreman at Santa Monica, from his own observation of the trees under his charge:

1. *E. polyanthema.*—Fine tree of full habit, well-branched, with heavy foliage. Leaves elliptic-ovate to orbicular, gray-green to soft glaucous blue-gray in color. Flowers small, white, in close terminal panicles, much resembling gigantic heads of mignonette. Bark roughish, brown, persistent. Blooms in January and February, very profusely. Very useful for bees at that season. Wood hard, close-grained, resembling box; makes excellent fuel. Fairly rapid grower.

2. *E. Stuartiana.*—Branching tree, with dense, drooping foliage. Leaves narrow, sickle-shaped, dull-green. Flowers small, white, in close clusters, plentiful but much hidden by leaves. Bark gray-brown, persistent for some years, then splitting off in small flakes. Blooms in March, April, May.

3. *E. eugenioides.*—Straight-stemmed tree, clear of branches for some distance from ground. Close crown. Leaves small, lanceolate, sickle-shaped. Flowers white, in small, close clusters; April, May, June. Bark thick, soft, stringy, persistent.

4. *E. diversicolor* var. *Colossea.*—The "Karri." Straight, symmetrical tree, well-branched. Leaves ovate-lanceolate, pointed, dark-green. Flowers white, in heavy clusters; March, April, May, and again in November. Bark smooth, gray-brown, persistent for some years. Profuse bloomer; good tree for bees.

5. *E. Lehmanni* var. *Stricta.*—(*E. Lehmanni* stated by Von Mueller to be only a variety of *E. cornuta*). Divides into several large branches at or near ground, making a spreading crown. Leaves small, oblong, mucronate, thick in texture, dull-green. Flower buds very large, resembling close clusters of horns; flowers in large globular heads of yellow-green filaments; fruit in large, close spiny clusters; all very remarkable. Blooms, July, August, September. Valuable as an ornamental and as a botanical curiosity.

6. *E. cornuta.*—Much larger and more rapid growing than *E. Lehmanni*, but has something of same tendency to divide at or near the ground in many cases. Leaves lanceolate, blunt, dull-green. Flower buds, flowers and fruits like *E. Lehmanni*, but smaller, and the fruit clusters not so compact. Blooms about same time as last-named. Has been used successfully as a roadside tree near Santa Monica.

7. *E. citriodora.*—(Stated by Von Mueller to be only a variety of *E. maculata*). Rather slender, straight-stemmed tree, with long, slender, drooping branchlets and very long, narrow, falcate, bright-green leaves. Flowers creamy-white; May, June, July. Bark, outer layer deciduous, leaving inner smooth bark, beautifully colored in pale-grey and lavender tints. Leaves exquisitely lemon-scented. A beautiful and very desirable ornamental species.

8. *E. robusta.*—Handsome, symmetrically-branching tree. Leaves large, ovate-lanceolate, pointed, dark-green, coriaceous. Branchlets dull-crimson. Flowers large, white, in January and February. Bark rough, dark-brown, persistent. Profuse bloomer and especially valuable for bees. Fine avenue tree, and being planted to some extent for this purpose in southern California.

9. *E. amygdalina* var. *angustifolia.*—Very graceful tree, with spreading branches, drooping branchlets and very narrow almond-like leaves. Flowers small, white, in dense clusters; December. Outer layer of bark deciduous in patches, giving trunk a piebald appearance. Free bloomer; good for bees.

10. *E. alpina.*—Shrubby Alpine species, of spreading habit, with rather close foliage. Leaves ovate, obtuse, mucronate, dull-green, thick in texture. Flowers white, in small, close axillary clusters, not conspicuous. Buds dark red-brown, warty; curious.

11. *E. obcordata.*—Small shrubby species. Leaves broadly obovate, dull-green, thick in texture. Flowers dull-reddish, not conspicuous. Flower stalks broad, flattened, recurved; rather remarkable.

12. *E. ficifolia.*—The well known scarlet or crimson-flowered eucalypt. Regular, symmetrical habit; rather pyramidal form. Leaves large, ovate-lanceolate, pointed, dark-green, coriaceous. Flowers large, brilliant red (varying from crimson to scarlet on different trees) in large terminal clusters; August, September. Seed capsules large, ovoid, in heavy clusters; romarkable. Fine ornamental tree.

13. *E. calophylla.*—Closely related to *E. ficifolia.* Very similar in habit and form, but somewhat faster in growth. Leaves much like last named. Flowers large, white, in large clusters; very conspicuous. Seed capsules large, urn-shaped; remarkable. Fine ornamental.

Seed in small packets, 2 cents for each variety ordered, postpaid. Use the numbers in ordering.

SILK COTTON TREE (*Eriodendron anfructuosum*).

The free use in upholstery of an imported lustrous light and elastic fiber known as "silk cotton" creates interest in the tree which produces it, and the possibility of its growth in California. As a native of the south of India, and therefore tropical in its requirements, the tree is likely to succeed only in the few practically frostless localities in California, if at all. However, as the tree is of such wide fame, we desire to

demonstrate by actual trial its local status. We have received seed several times by gift, but it had passed the germinating condition, except a sample donated in 1896, which readily yielded strong plants under hot-bed treatment.

The silk cotton trees are described as remarkable for stature and splendid bloom, and for their capsules, which on bursting display a flocculent substance more silky than cotton, which from its shortness of staple and elasticity cannot be spun by cotton-spinning machinery. These qualities, however, adapt it finely for stuffing pillows, cushions, coverlets, etc., for which it is largely used. The flowers are large, red and very showy; the leaves digitate; the stem is covered with prickly tubercles; the wood is light and porous; the bark has medicinal properties and yields a pure gum.

We have but a few plants which have been grown in small pots, and will send one to each applicant for 25 cents, postpaid. We trust that only those residing in strictly thermal situations will apply for them. The plants will not be mailed until after February 15th.

CAROB (*Ceratonia siliqua*).

This handsome and useful tree is the true "Algaroba" or St. John's bread of the Mediterranean region, which has been heretofore recommended for cultivation on dry or otherwise unavailable hillsides, as well as in richer and moister lands, for the production of an excellent feed for cows or for swine. The Carob is about as hardy as the orange, but owing to its drought-resisting qualities when once established, it is destined to have a much wider range than that tree. It has been grown to a limited extent in this State for the last twenty years, and it deserves much wider trial. Plants grown from seed on the estate of James Shinn at Niles, Alameda county, have borne fruit for several years and a supply has been donated for distribution. We will send to each applicant several pods, which are to be broken up and the seed taken out. The seed should be soaked over night and planted in a box of sandy soil placed in a warm place and kept moist. Cover the seed about half an inch. We send several pods for 5 cents, postpaid.

PLANTS FOR GREEN-MANURING.

In the report of this station for 1894-5 quite a full discussion is given of green-manuring in California. The interest in the subject is keen and we are now receiving reports from those who experimented with the plants of which we distributed seed last year. We desire to hear from many more correspondents in this line. Reports thus far indicate that in some localities the winter growth of the plants in the coast valleys is quite satisfactory; from interior situations reports are conflicting. We desire further trial this winter.

Snail Clover (*Medicago turbinata*).—This plant is a native of southwestern Spain and has shown its value as a winter forage plant in this State. It is closely related to the "burr clover," but it has a larger seed-pod, which is smooth and more abundantly produced, and therefore the plant is superior as a dry forage plant for stock. The green growth of the snail clover resembles that of burr clover, but with us it is much ranker. It starts from the seed as soon as the earth is moistened by the fall rains, and makes a strong growth during the winter and spring, drying up as soon as its vast crop of seed-pods ripens early in the summer. By sowing upon orchard ground and plowed as early as practicable in the fall, it should make a dense mat of foliage by the time of the spring plowing. It seeds so freely that, by allowing a small area to go unplowed in the spring, seed enough can be secured for covering a considerable area of orchard. Soak the pods and sow rather thinly broadcast as early as the ground can be put into shape, and cover by raking or harrowing. Seed in 12-ounce parcels, 10 cents each by mail.

Square Pod Pea (*Tetragonolobus*).—From our observation of the growth of the plant another season, we are less confident of its value for the purpose contemplated. Its roots, by their thick incrustation of tubercles, show that the plant is very active in its assimilation of atmospheric nitrogen, but more observation is needed on its winter growth to determine its availability for green-manuring in different portions of the State. It is noticeably less hardy than snail clover and more sensitive to drought.

We have two species of *tetragonolobus:* one is red-flowered with erect stems (*purpureus*), the other is yellow-flowered with prostrate stems (*siliquosus*). With us in Berkeley the *purpureus* shows the more uniform and desirable growth, but we desire to have observation made upon the two species side by side in other parts of the State. The seed should be sown thinly broadcast as early as possible on newly turned ground and lightly raked in. The experiment should be made in an enclosed place, so that the plants will be safe from intrusion and handy for observation. We send seed at 5 cents per packet of each variety, by mail, postpaid.

DRY LAND GRASSES.

The grasses which years of trial have shown to be best for moderately dry lands in California, especially the uplands of the coast region, are "Australian Rye Grass" (*Lolium perenne*), "Orchard Grass" (*Dactylis glomerata*), "Red Top" (*Agrostis vulgaris*), and "Meadow Soft Grass," locally called "Mesquite" (*Holcus lanatus*). All these can be purchased at the seed stores, and for this reason we do not distribute them. In addition to the foregoing we offer the following list, including grasses of our own introduction, which are proving valuable where the heat and aridity are not too great. The seeds should be sown in places where their growth can be conveniently watched, so that each grower can determine for himself which ones should be largely sown the following year. By collecting seed from a small plot a large area can soon be secured:

1. Tall Oat grass (*Arrhenatherum avenaceum*).
2. Awnless Brome grass (*Bromus inermis*).
3. Schrader's Brome grass (*Bromus unioloides*).
4. Japanese Wheat grass (*Agropyrum japonicum*).
5. Many-flowered Millet grass (*Milium multiflorum*).
6. Hairy-flowered Paspalum (*Paspalum dilatatum*).
7. Texas Blue grass (*Poa arachnifera*).

Of any of the first six named, we will send seed at 5 cents each per package.

No. 7 grows best from the *roots*, of which we send a package for 10 cents.

FORAGE PLANTS FOR ALKALI SOILS.

Australian Salt Bush (*Atriplex semibaccatum*).—The value of this plant has been demonstrated beyond question for lands too alkaline for the growth of ordinary forage plants. Our publications concerning it, which will be sent free to any applicant, afford full information as to its culture and growth. The seed is now in the market and can be supplied by any California seedsman. We still, however, have an overwhelming demand for small trial packages and therefore continue the distribution for another year. Plants may be grown by sowing the seed in boxes or garden bed, covering very lightly, and planting out the seedlings several feet apart, when a few inches high, on alkali spots. This is the surest way to get the plant established, although if the seed be scattered on the surface of the alkali soil before a rain it germinates readily when the heat is adequate. When the plant once gets a hold on the soil it covers the ground very thickly from self-sown seeds, which are produced in abundance. We send seed at 5 cents per packet, postpaid.

Modiola (*Modiola decumbens*).—This plant, which is a native of Chile, has been observed growing freely on alkali lands in Kern county; sheep and cows eat it in preference to alfalfa, and improve in flow of milk. It is almost as rich in flesh-forming ingredients as alfalfa; in this respect it is superior to the salt bushes. The plant may be valuable on dry and waste places, even when very alkaline; but it *must be introduced with caution*, because it has a habit of rooting from its prostrate stems, and therefore will be very difficult to eradicate. In this respect it is very different from the salt bushes. To those who desire to try the modiola in places which are waste and remote from cultivated lands we will send small packets of seed at 2 cents each.

CANAIGRE (*Rumex hymenosepalus*).

Although large plantations of this tannin-yielding root have been made, and the seed and roots are handled by the trade for those who want them in considerable quantities, we receive so many requests from those who desire to test the plant on a small scale in different localities that we continue the distribution another year. Bulletin 105 and Report 1894-5 of this Station treat of this plant and its culture in detail, and copies will be mailed to all applicants. The plant is commonly grown from cuttings of the small roots, but grows readily from seed which is scattered when the ground is moist, and slightly covered. We send *seed* for 5 cents per packet, or *roots* for 25 cents per package, postpaid.

GREEN FEED FOR POULTRY AND STOCK.

Jersey Kale.—Reports from those who have grown this plant from our seed are so emphatic in praise of it as a summer and fall green feed for poultry, that we desire to bring it to the attention of all. It requires moist land, but where even a small area of ground can be irrigated from a well or other small water supply, the weight of green growth is probably greater than can be secured with any other plant with the same amount of water. It withstands both cold and heat better than any other cultivated member of the cabbage family, and the old stems bear good crops of leaves for several years where the ground does not freeze in winter. The leaves are often 28 inches in length and 18 inches in breadth, and when plucked from the stem are quickly replaced. By saving seed the grower can soon secure a very large area, if found suited to his uses. Plants should be grown and set out like cabbages. Seed, 3 cents per packet, postpaid.

Jerusalem Artichokes (*Helianthus tuberosus*).—This old plant is still in such request by California growers that we offer tubers from our garden to others who may desire to experiment with it. Planting and cultivation should be the same as with potatoes, except that a single tuber is enough to a hill. We have two varieties—White French and Red Brazilian. The former is highly esteemed by some as a table vegetable, either boiled or used in soups or salads. The red variety is perhaps superior for stock purposes. We can furnish both sorts if desired at 10 cents per package of each, by mail.

ALGERIAN WHEATS.

We have grown during the last year an interesting collection of Algerian wheats from seed received from Jardin Botanique, Mustafa, Algiers. These wheats are all of the Mediterranean type—very tall and strong, bearded wheats with a large, hard, glutinous, and therefore dark-colored, kernel. They will not yield acceptable milling wheat of the California type, but for feeding uses and for resistance to Hessian fly and rust they are worthy of local trial. We offer the following:

1.—Bellionni.	9.—Hamra.
2.—Kahla.	10.—Guemgormer Rakhma.
3.—Bli pelissia Hemecy.	11.—Bidi.
4.—Aicha Abudda.	12.—B. Mohamed de Bochia.
5.—Mawe.	13.—Neb-el-Bel.
6.—Boybar.	14.—Ouchda mawe.
7.—B. Zedonni.	15.—Hedeba.
8.—Zag-Gborab.	16.—C. Adjini.

We will send seed of as many kinds as the applicant may desire at 15 cents for 1 pound of each kind selected, postpaid.

FOR THE GARDEN.

Roselle (*Hibiscus subdariffa*).—This interesting plant, resembling in its growth okra or gumbo, is a native of tropical Asia and Africa, and has been widely distributed through semi-tropical countries, where it has been found to possess considerable resistance to drought and to yield very acceptable food products. The stems also contain a silky fiber of which some use is made in India. For the seed we are indebted to Mr. A. Neustadt of San Francisco, who imported it from Queensland. The plant made very satisfactory growth at our southern California Station, near Pomona, and Mr. J. W. Mills, foreman, furnishes the following note of its local growth and uses:

The plant is very ornamental, the dark red stems and pods showing through the rather scant dark green foliage. The flowers are of a yellowish white with a dark red center, two inches across and lasting only an hour or so during fair weather. The juice extracted from the fleshy calyces or husks is used with water to make an acidulous cooling drink, but is of most value in jelly-making. The mucilaginous properties of the juice render the "setting" of the jelly certain with a reasonable amount of cooking. The dark cherry color of the jelly and the sprightly acid make it nearly if not equal to currant jelly. The color of the husk is very much more vivid when the pod is green, and in this condition the pod and all can be cooked and the juice strained. If, however, it is desired to save the seed, the pod must be allowed to ripen and the husks can then be used for jelly-making. The jelly thus made has become very popular in the neighborhood of the Station this year. People have helped us to gather the seed-pods for the chance of getting the husks, and those who took a sample for trial came afterward to get a supply. If the husk is dried it does not lose its acidity or color. This allows it to be shipped in a condensed form and it can afterward be made into jelly. Irrigated plants produce a more highly colored fruit, but come into bearing later. Unirrigated plants put their strength into fruit, but the irrigated plants start lateral branches which ultimately produce several pods, while the unirrigated plants have but one pod. The above is found to be the case at this Station, where the soil is light and sandy and water is 40 feet from the surface.

As the plant will endure quite heated and arid situations it promises to be of much value for jelly-making where currants do not thrive. The plant should be given ordinary garden culture, sowing the seed when danger of frost is over. Enough of the pods should be allowed to ripen to yield seed for the following year. Seed in packets 3 cents, postpaid.

Edible Pod Pea.—For this excellent pea we are indebted to Mr. Edward Lester of Pasadena, who introduced it from England, where he

had learned its value. It is a delicious vegetable cooked in the pod, which is entirely stringless. The plant is sturdy and grows about five feet in height, bearing a purple bloom. The pod is about four inches in length, much curled and semi-transparent. From seed sown in Berkeley February 25th the pods were ready for table use on May 14th. 3 cents per packet, postpaid.

WASHINGTON MARKET CORN.—Seed of this variety was sent us by the United States Department of Agriculture. In vigor of growth, number of ears to the stalk, length and shapliness of the ears, size and tenderness of the kernel, it is the best we have ever grown under Berkeley conditions. We desire to have it tried by all growers of sweet corn, to determine quality and season as compared with present popular varieties. 5 cents per packet, postpaid.

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The interest in local tobacco experiments continues active. We offer the following cigar varieties:

1. Sumatra.
2. Zimmer's Spanish.
3. Connecticut Seed Leaf.
4. Harby (Turkish).
5. Imported Havana.
6. Comstock Spanish.
7. Little Dutch.
8. Vuelta de Abajo.
9. Persian Rose.
10. Persian.
11. San Juan de los Remedios.
12. Partidas.
13. Pennsylvania Seed Leaf.

The seed will be furnished in small packets at 2 cents for each variety ordered. Use the numbers in ordering.

Application for seeds and plants should be made *as soon as this announcement is received.* We are unable to continue distribution throughout the year. Address, E. J. WICKSON,

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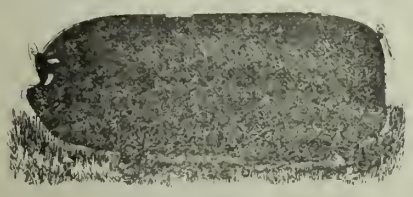

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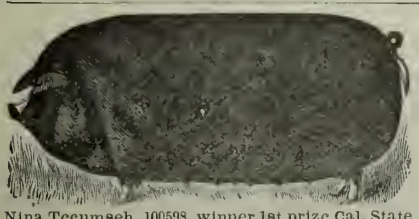

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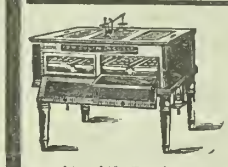

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316 MONTGOMERY STREET,
Bet. California and Pine, SAN FRANCISCO, CAL.

THE HOME CIRCLE.

An Unbidden Guest.

Sorrow once said to Youth: "I needs must dwell
With thee awhile—I pray thee let me in,
For if thou shelter me it shall be well,
And thou fresh treasure for thine own shall win,
New conquest over Self, new strength 'gainst Sin."
But Youth refused; and swift to shut the door,
Crying: "Depart, I will not see thy face!"
Yet Sorrow knocked more loudly than before,
Pleading: "Let me abide with thee a space,
Lest I some fearsome form am forced to take—
The heart that will not yield I needs must break!"
Then Youth, with tears, no longer dared delay,
But bade the stranger welcome—till one day,
Behold! Joy sat in Sorrow's vacant place.

—Pall Mall Magazine.

Book-Larnin'.

The boy, twisted and deformed with spinal trouble, and struggling with asthma, lay among his pillows on the wooden settee that his grandmother could put out her hands and rock—the sole thing left for her to do, crippled herself and bound all day to her chair. He surveyed her agitation with projecting eyes that gave him the look of a strange and prodigious insect. "Don't you be scared, ma'am," he said, laboring explosively with his breath, "I'm—I'm here!"

The little old woman turned her face to smile on him.

"You'll take care of gran'ma'am, won't ye, Gershom?" she said.

And then the uproar was upon them, as the door between that room and the inner one burst open and the shaggy old man strode in. "It's mine," he was exclaiming at the top of his voice. "And I'll du ez I'm a mind ter 'ith my own!"

"There, there, father!" said the little old woman, accustomed to soothing, although there was a glitter in her dark eyes like a spark of fire left in the ashes.

"Don't father me!" he cried rumpling the mane of his gray hair and beard with both hands. "I mean—yes, Sary, it is mine, aint it? All the farm an' the wood-lots an' the mill priv'lidge? I never gin'em up to Rilla an' Silas. I left 'em come here to stay a spell. Aint that so?"

"Jes' so, dear, jes' so. Now don't ye fret no more. Dear sakes, they tek care o' things. You know, I couldn't be makin' the butter o' ten cows, crippled ez I be. An' you—"

"Yes, yes, yes! Me! I aint no better'n a dead tree! Dead ter the top fust, tew!" with a flicker of the dying intelligence in his wandering blue eyes. "But thet's no reason Rilla should say 'twas time fur me ter up an' go ter Gusty's now! W'at should I go ter Gusty's fur? You can't go ter Gusty's—"

"It wuz in the bond," said the old woman, drearily.

"W'at bond? I never give no bond!"

"Dear! Don't ye worry now! You come an' set here by me an' hear the rain a-fallin'—it most giner'ly allus quiets ye; ye kin hear the corn grow in it, ye know. An' w'en it's time you go to Gusty's, an' come back—"

"An' leave you here? Not by a durned sight!" cried the old husband. "I mean—I swum! I never useter swear. Not by a goldarned sight!" he exploded again. "W'y Sary, you an' me's ben one so long the thread'll snap ter stretch it so!"

"Oh, oh, oh!" cried the little old woman, clasping her thin hands. "Ef it on'y would! My, my! I didn't go fur ter say thet! I'm jes ez well took care uv ez anybuddy kin be—we'n Rilla's got the butter uv ten cows ter see ter, an' all—"

"They're my cows! I've raised 'em ev'y one! I let Rilla tek car' uv ten, an' Gusty ten. Ev'y one uv'em's sucked my fingers in the trough. The little black heifer'd foller me all roun' the place ter get apples out'n my pocket. An' the grade Jersey, she wouldn't let down her milk ter anybuddy but me. You mind thet day the Durham got in the slough? The critter she had more gump 'n Silas w'en he went ter help me get her out. She come uv a gre't herd. An' Rilla pertends ter day they're hern—"

"I don't pertend ter say anything!" cried a shrill voice in the other room, over the thud of a cradle rocking on the bare floor. "I pertend ter say thet no woman's more'n mortal, an' thet it's Gusty's turn now ter hev the wits jes pestered out'n her! An' you're a-goin' over there termorrer, 'cordin' ter agreement, an' you needn't say another word about it!"

"You're an onnateral child!" roared the old man, stalking to the door his great height filled.

"Oh, Siah, Siah!" called his wife.

"I don't care wa't ye say!" retorted the querulous voice from the other room. "I'm jes beat. It's enough ter hev the trouble o' ma'ma an' Gershom an' I don' grumble about thet. But it's all I kin du. An' Gusty's gotter hev her sheer. 'Taint fair. She ain't chick nor child—an' you've gotter go—"

"An' leave ma'ma?"

"Ma'ma can't go."

"You'll tek my dead buddy fust, then," he cried.

"Oh, Siah, father," cried the little old woman, reaching out her helpless hands, "you keep still—"

"Keep still w'en I'm drove fum my own door, fum my own wife!" wheeling about in the doorway. "Keep still! I'll raise the roof fust—"

"You a-raisin' uv it now!" exclaimed the voice beyond. An' I hope you're satisfied. You've woke the baby fur good an' all. An' me 'ith thet i'ning—"

"I'm glad I hev! I hope it won't never go ter sleep agin!"

"Oh, father, father!" cried the old woman.

"I hope ye won't never know w'at 'tis ter sleep agin yerself—"

"Oh, Siah! Husband!"

"Waal—I mean—that is ter say"—gazing bewilderedly at the wall, where time and smoke had deepened to the brown tones of the room the pictured bits of the illustrated papers that Rilla in pathetic attempt at decoration had pasted there: "Waal, Rilla—there—ye give me the baby," holding out his trembling hands; "I'll git him off. Lor! I've put ye ter sleep yerself, Rilla, many's the time, w'en yer mother's arms wuz thet tired they couldn't hold ye. I've been a good father ter ye, Rilla. Ye aint a-goin ter sen' yer old daddy out in the cold—"

"'Taint out in the cold. It's on'y over ter Gusty's—the other side the wood-lot, whar yer useter think 'twuz pleasant enough livin' afore ye built here."

"'Twuz. 'Twuz pleasant. W'en yer mother wuz young an' spry, the brightes' black-eyed gal in the county—sweet ez a peach, you wuz—sweet ez a peach, Sary—an' the leetle babies comin'—I hed a welcome fur 'em eve'y one—thet's you, Rilla; thet's Gusty; thet's Car'line, ez hez ben the sorest o' sore troubles," he said, with a trembling voice. "She'd 'a' ben a prop ter the house," he said, and paused a moment. "Yes, I wouldn't a-come ter this ef I'd a-hed Car'line," he began again. "W'at'd she want book-larnin' fur? Could it a-helped her mek bread an' mek cheese? Could she eat it? But she mus' go ter the 'cademy fur book-larnin'. An' w'en she'd got done 'ith the 'cademy 'twarn't enough book-larnin' fur her. An' she hires out ter help in the kitching. My darter! My darter hires out ter sarvice ter git money fur more book-larning'! My darter old Blake's hired gal—old Blake, thet courted you, Sary, 'fore I did!"

"There, there, now, father," said his wife. "I wisht you'd jes see ef it's clearin' off. We'd feel better fur a bit uv blue sky an' a robbing singin' in it."

"I cussed the sound uv her name w'en I heered it," the old man went on, obliviously. "I cussed her book-larnin'—"

"It — med grandsir — mad — ef it didn't—Festus," murmured the boy between breaths.

"Shame on ye, Gershom," whispered his grandmother, "t' use yer Bible varses no better'n that! An' ye hedn't orter be a-talkin' so, Siah. My poor little Car'line! She's ben a-studyin' ter the horsepittle ter be a nuss—"

"A-studyin' ter be a nuss! A-studin' ter be a fool!"

"She's 'most a doctor! Yes, she is! She's sent me real nice medicine, an' this warm shawl. An' I don't know w'at I'd done 'thout them hot water bags o' hern," persisted the little creature. "Mebbe she'd du me some good ef she wuz ter see me—it's four long year. Oh, it'd du me good jes ter see her little face."

"Ye won't never see it then! I won't never see her, so help me mighty! I cussed her livin' an' I cussed her dyin', ez I'll cuss you, Rilla, ef ye mek me go away from yer mother!"

"Oh, who cares fur yer cussin'?" said Rilla, not more than half under her breath. "Yer a sight too free 'ith it. Now you've got the baby's eyes wide open, an' put back all my work for the day! You aint ever hed the leastestest mite o' consarn fur anybody but yerself in this teetotal world!" And she slung baby over her shoulder and went to the buttery, feeling herself the most abused person there.

"Churn, churn, churn away!" roared her father, striding a little way after her. "Yer butter never'll come! Yer cream'll mould in the pan! It'll sour in the jar! By king!" cried the old man, more and more frantic with his trouble.

"Oh, Siah, Siah!" sobbed his wife, feeling the real terror of the imprecation.

"I mean it!" he cried again. "I cl'ared this lan' 'ith my own han's. The very pasturs them cows feed on, I laid 'em down to grass. An' now she begrutches me a sup uv their milk an' a bite uv the bread she wouldn't never hev hed ef she'd a-waited fur Silas ter grow the grain — slower'n Taunton water—"

"I guess," exploded the occupant of the settee, "you kind—uv furgit—Silas's—my father!"

"The old man laughed. "Ye little hop o' my thumb!" he said, his anger melting somewhat. "I shouldn't expected thet chowder-head uv a Silas ter hev much more uv a son'n you be."

"Siah! Siah!" came the constant burden.

"I—don't mind—gran'ma'am. Don't—you," said the boy. "He's ez f'erce ez a—meat-ax—but he don't—kill nothin'!"

"I hedn't orter a-said thet, Gershom. Fact is, w'en my mad's up, I don' rightly know w'at I be sayin'. Enyway," the melting now becomes an avalanche, "ye know yer little finger's wuth more to yer old daddy'n a hull bilin' uv childern. I wouldn't hev ye changed fum w'at ye be, not ter see ye ez big ez Goliar! There, there, now, sonny," and he lifted the boy in his arms and was walking like a whirlwind up and down the room, the long, low, dusky room, full of the swinging shadows of the green boughs wrestling in the storm without, and the dark beams of whose ceiling his lofty head almost touched. "W'y, Gershom, other boys kin git growed up—let 'em grow, consarn 'em, let 'em grow!" he exclaimed. "But my boy'll allus be suthin'," he added quickly in quite another tone, "thet his old grandad kin mek much on—"

"Ye—hurt me—when yer shoutin' so—ye start me—an' mek me ache!"

His grandfather shook up the calico-covered pillows with one hand and laid him down gently among them. "Ye see jes' how it is, Sary," he said, in a husky voice. "Rilla looks twice't ter the crust uv bread I take—ef ye kin call it bread—the mess she makes. She never wuz no cook, anyways; she can't bile water 'thout burnin' uv it. An' now this boy sez I ain't no use ter him."

"I didn't. I didn't say nothin'—er the kin'! Hope I may die—ef gran'sir—don' mek it wus'n 'tis!—He—jes—rubs it in!"

"I guess I'd better go," said the old man. "It's a-crowdin' the mourners w'en thet boy turns agin me. The' ain't no room fur me ter hum. I do' know w'are. I won't go to Gusty's, though. Thet's flat! But I allus paid my sheer uv the tax, an' I kin go onter the town. By king!" he cried, exultingly. "I kin go on the town, an' they'll board me out! An' they'll board me out here! Silas won't never refuse the board—he ain't attacted thet way. But by the Lord thet rules above us," cried the old man, tossing up his arms again, "its a shame! It's a shame! It's a shame w'en I'm ter be boarded out a pauper in my own house." And he dashed out bare-headed into the gale that darkened the summer day.

"It's hard lines, ain't it, grandma'am?" said the boy. "Ef—grandsir'd keep—quiet—tell I—could tek car' on him—"

"Poor little soul!" she sighed. "Ef it would please the Lord ter tek us three out'n this, an' inter another life, ter begin over agin!"

"It 'ud hev ter be—a life w'are—the' warn't no bones—fur your rheumatiz' nor my back! An'—I'd—a' med this one thet-a-way ter the fust—ef—I'd a' done it! Ther' ain't no sense—in givin—a boy a sperrit ter beat the world 'ith—an' then a-tyin' uv him up—inter a bowknot."

"Waal, I s'pose the Lord he knows best," she said, half doubtfully. "P'r'aps ye may enj'y yer wings all the more w'en ye git 'em, 'cause ye hadn't yer legs here. Jes think wa't it'll be then, a-liftin' yerself through the blue air."

"How—how do ye know—it's blue, ma'am?"

"It'll hev ter be the same thing to us then ez blue air is now, I guess."

"It'll be wuth dyin' fur, won't it, then?"

"It's pleasant a-picterin' it; but, sho! Does thet fly on the winder-pane know w'at all out-doors means?"

"Tain't much different — we an' him."

"Waal, waal, in old time w'en I useter see a star a-scootin' along at night, I'd think thet's the way I'll be goin' tew, some day. Land alive! I don't see no stars nowadays. But I ain't a-complainin', child."

"Complainin'! No one ain't ever—heered you complain. Yer a—hull team, gran'ma'am! I don't b'lieve they—got thet story—in the Bible—right—"

"Gershom!"

"No. They didn't tek the man's ribs ter mek a woman 'ith. They tuk hes backbone. An' they tuk—the—hull uv it!"

"Gershom, now you hush up! Oh, I du wisht yer gran'sir 'd a-fetched his hat." As she spoke, a cat-bird on a spray of the dripping althea bush by the window lifted his throat and flooded the heavens with music. "I du b'lieve the sun's a-comin' out," said grandma'am. "I hope he ain't jest drenched fust."

But while the half-crazed old man was stalking on with his furious haste in the rain a young woman in a rain-cloak and under a neat umbrella was coming to meet him. She was gazing at him intently from a pair of soft brown eyes, a flush upon her velvet cheek. She went forward hurriedly to meet him. "I beg your pardon," she said. "But is it—is it possible? Are you Mr. Scars?"

"It ain't nobody's business who I be!" he cried. "I'm a pauper. Thet's who I be!"

"Oh, no," she said. "I guess not. Are the righteous forsaken now more more than they used to be? If you are Mr. Siah Scars, you have some children—"

"A passel uv ongratefle critters—"

"I am going your way," she said, quickly. "Will you hold the umbrella over us? Thank you. It rains some, doesn't it? I knew your daughters once. There was Marilla—"

"Rilla—yes—the onnat'ral—"

"And Augusta—"

"I ain't never goin' ter Gusty's, an' they needn't say I be! It 'ud be: 'Wipe yer feet,' here, an' 'Hang up yer hat,' thar! Rilla's bad enough,—but Gusty! I'll tek yer mother out'n her chair w'are she's tied all day, an' go onter the town 'ith her fust!"

The young woman looked up startled,

but she saw the recognition was unconscious. "And then there was Caroline—"

"Car'line. No. Thar ain't no sich person," in a different tone.

"As Caroline?"

"As Car'line. I ain't no use fur her," without glancing at the wistful face, as he ploughed on through the rain and mud. "She broke my pride—so's I ain't ben no account since. An' she waz the one I set by most uv all. She wuz her mother all over agin. She—"

"Caroline is a nurse now. She hopes to be a doctor some day. She is trying to save enough money to go Paris and study—"

"I dessay she'll go ter the eends uv the yarth, a-riotin' in kings' palaces, an' me an' her mother suff'rin'—"

"She wants to study particularly the ailments like her mother's," pleaded the gentle voice.

"She ain't nothin' ter me," he said, shaking his long locks.

"She wouldn't have you walking out in this weather and no hat on," said the young woman, archly.

"I'd like ter see her hender? Who be you, I wonder?" he cried, half pausing, as he bent his head for a keener look from the eyes that saw nothing distinctly for the blur across them. "Ye ain't no bigger'n a cock robbing 'ith yer glib talk."

"Don't stop," she said, as he would have passed through the gate without her. "I am going to see your wife. She used to hold me when I couldn't go alone. Now I'm going to hold her. And you, too! Father! Don't you know me:" And as they reached the doorstone the umbrella went whirling off in the wind, and her arms were flung about the old man's neck, and she was pulling his face down to look in the wondering and vague blue eyes, and kiss the wet forehead.

"Thar goes yer umberil," he said, freeing himself. "You step right in ter yer mother."

It was about an hour before the old man, who had combed his shaggy hair and put on a coat, came back into the room where his wife sat. The young woman was on the floor at her feet, holding one of the little withered hands, her head leaning back against the settee where Gershom's starved fingers played with a loosened tress of her hair. The storm was over; and there came in with him through the opening door a burst of sunshine, a glimpse of blue sky, an indescribable mingling of earth scents and honeyed blossom breaths and fragments of bird song. It was the same low brown room, but somehow it seemed that instant a chamber of the House Beautiful.

"Oh, father!" cried his wife. "Oh, Siah! She's come back—Car'line—my baby! An' she ain't changed a mite! An' she sez she knows a doctor 'll put me onter my feet agin. An' she sez Gershom no need ter be lavin' twisted so! She goin' ter tek him away w'are they'll straighten him out an' mek him ez good ez new—"

"An' it 'll be—better'n dyin'! It'll be the same—ez—havin' wings, an' here, too, ye know!" said Gorshom.

"Anybuddy 'd think thet all there wuz ter heaven wuz jes the havin' wings," said his grandmother, staying the flood of joy long enough to improve the occasion. "An', Siah," she cried again to the dazed old man, "she's goin' ter pay our board ter Rilla, Car'line is, an' the hire uv a gal ter tek car' on us, do fur us—you an' me, Siah!" the words tumbling over one another. "She gits $25 a week pay—think uv it! W'y, it's riches, Car'line. An' yer goin' ter hev a black coat an' a pair o' gold specs, an' set up like a gentleman, a-readin' the RURAL PRESS. An' she's ez pooty ez a picter!" the glad little mother cried again between the gusts of joyful tears. "She's my own darter! She's divine Providence. Siah, she's the hand uv the Lord, thet's w'at she is! An' we aint the unly ones she brings help ter—it's her bus'ness, Siah, it's her business! I feel most well a'ready."

The old man had slowly seated himself on the chair opposite. "I thought mebbe I'd been dreamin'," he said. "Mother, 'd you say 'twuz my leetle Car'line?"

"She's Nurse Scars, Siah. Thet's w'at they call her."

"I shan't call her nurse, shall I?"

"Well, I guess not," answered the young woman, who had planted herself on his knee and was parting his long white locks with her fingers. "What did you use to call me?"

"Seems ter me ye wuz most like a leetle song-sparrer uv anythin'—allus a-twitterin' about the place."

"Then I'm your song-sparrow still. And I shall sing you songs of good cheer now for the rest of pour days."

He bent back her head to peer into the bright brown benevolent eyes. "Yer mother useter look jes like ye," he exclaimed. And then he smiled, as if one thing followed another. "W'at a thin' book-larnin' is, to be sure!" he said.

Well Meant, But Too Late.

A pathetic story, true or well invented, comes from the St. Louis *Republic*. At a little station fifty miles from Chicago an old farmer boarded a railway train; a thin man, with a sensitive mouth half concealed by an iron-gray beard, dressed in what were evidently his most uncomfortable Sunday clothes. He slid softly into a seat beside a grave stranger.

Two or three times the old man turned his face toward the flying landscape. The stranger was struck with the troubled expression, and glanced wistfully at his companion. The latter spoke at last, with a pathetic huskiness in his voice.

"I am going to the city for the second time in my life," he said, half startled at his own words.

"Yes?"

"Thirty years ago come July I went there for a wedding suit, and I am going back to-day for a coffin and a shroud for the little woman that married me.

"You don't know what it is, mister," he continued, "to live and work 'longside a woman for thirty years, day in and day out, to find her always patient and willing and working, and then have her dead and cold with her worn-out hands crossed on her breast. It was just a little after the turn of the night, and nobody but me was watching when Margie kinder woke up.

"'David,' says she, 'it's restful—so restful, and I am so tired.' And so she went to sleep again, and didn't wake up this side of heaven.

"You know, stranger, these words of hers have set me to thinking. Poor, tired soul! I never knew how much she needed rest. We never thought of it while we were working and skimping and saving, trying to lay up something for the children.

"She never had any pleasure, she never took any holidays or visited the other women. She raised the children, and fed the pigs, and milked the cows, and churned, and cooked for the harvest hands. I never knew or thought how she did it all with those poor crossed hands of hers.

"Some folks say it won't do any good, mister, but I am going to see that she is put away in something rich. We wasn't skimping and saving for thirty years for this, but I'm going to have the best that money can buy. She's earned it, God knows."

A Georgia man applied for a divorce on the ground that his wife "had whipped him in presence of company." The jury granted him a divorce, returning the following verdict: "In the opinion of this here jury the wife committed a grave offense in publicly whipping the plaintiff. She should have taken him into the barn or to a room when whipping was necessary."

Isaac: "Oh! Rachel, you vas de light of mine soul!" Rachel (shyly): "Den vy don't you turn down the gas, Isaac?" "Vat, und me a stockholder!"

Utility.—Mother: "Your penwiper has never been used at all." Little Johnny: "Don't need it, my new pants is black."

Gems of Thought.

If you lack wisdom, love is often wiser than wisdom —Gail Hamilton.

Looking back is more than we can sustain without going back.—Cecil.

What do we live for, if it is not to make life less difficult for each other?—George Eliot.

As you go forward in life never expect too much, never hope for too little.—Dr. Jowett.

Tenderness does not mean weakness, softness, effeminateness. It is consistent with strength, manliness, truth and bravery.

Every honest occupation to which a man sets his hand would raise him into a philosopher, if he mastered all the knowledge that belonged to his craft.

Hath any wronged thee, be bravely revenged. Slight it, and the work's begun; forgive it, and 'tis finished. He is below himself that is not above an injury.—Quarles.

Examine your words well, and you will find that even when you have no motive to be false it is a very hard thing to say the exact truth about your own immediate feelings—much harder than to say something fine about them which is not the exact truth.—George Eliot.

What we wish to remember we must thoroughly possess. If it is in the line of our work we must be master of it, not only laboring diligently, but understanding each step, being interested in each detail, seeing the relation of each part to the whole, and cultivating a passion for excellence.—Anon.

Popular Science.

The largest flower in the world grows in Sumatra. It is called the Rafflesia Arnoldi, and some of the specimens are 39 inches in diameter. The central cup will hold six quarts of water.

The "cold moon" is not cold at all when she is visible, but very, very hot. Her day is about a fortnight long, and during her period of brightness her temperature probably rises to 220° F. During the period of darkness, on the other hand, the lunar thermometer is supposed to drop to about 300° below the Fahrenheit zero. Then she may be truthfully said to be cold.

"It has passed current," says *Popular Science News*, "that sea air contains an appreciable quantity of salt. To test this M. Chaix made a series of experiments. He passed about thirty cubic feet of air through a solution of silver nitrate. In every case there was not the least cloudiness of the solution, which proved that the air contained no salt. The air contains salt only when the wind carries salt spray. If we wish to benefit by the salt in the air we must go where the sea is sufficiently agitated by the wind to continually hold sea water in suspension."

DOMESTIC ECONOMY.

Domestic Hints.

ENGLISH APPLE PIE.—Line a pudding dish with paste, and pare, quarter and core enough apples to fill it; add sugar to taste, one clove to every three apples, a large pinch of powdered cinnamon, half the grated rind of a lemon. An inverted cup should be placed in the center to hold the juice. This pie can be made in a large, medium or small dish, and the ingredients regulated accordingly. It should be eaten hot.

BEEF ROLL.—Chop one pound of uncooked lean beef, add to it the yolk of an egg, a tablespoonful of chopped parsley, a tablespoonful of melted butter, two tablespoonfuls of stale bread crumbs, a teaspoonful of salt and one-quarter teaspoonful of pepper. Mix well together and form into a roll about six inches long and four inches across. Wrap in greased paper and bake for thirty minutes.

RICE GEMS.—Separate the whites and yolks of three eggs into two bowls. Add one pint of milk to the yolks and beat lightly. To this add one level teaspoonful of salt, three cupfuls of sifted flour, one tablespoonful of melted butter, and mix thoroughly, after which add one scant cupful of rice. To the beaten whites of the eggs add two rounding teaspoonfuls of baking powder and add to the mixture. Bake from twenty-five to thirty minutes in a quick oven.

BEEF PECULIAR.—Stew half a dozen good-sized tomatoes for two hours. Season with pepper, salt and a very little curry powder. Have ready the desired quantity of chopped cold beef (that has been left over from the day before). Line a baker with cracker crumbs, having buttered it thoroughly, then put in a layer of beef, a layer of tomato and then more cracker crumbs. Continue this until the baker is filled, having the last layer of crumbs. Put little pieces of butter over the top, and bake in a good, hot oven. This is a delicious lunch dish.

TWICE-BREADED CUTLETS. — Select fine, firm veal, and have the chops cut from the ribs and meat trimmed neatly from the end of the bone, leaving about two inches to decorate with fringed paper. Dip each chop into beaten egg, and then into fine breadcrumbs, and set them in a very cold place for an hour; then dip them again in the beaten egg, and again roll them in breadcrumbs, sprinkling well with salt and pepper. Put some nice clarified beef fat in a frying-pan and stand it on the range. When it becomes hot fry the chops carefully in it until they are a delicate brown; then lift them out and lay them on a hot platter, with the bone end toward the edge of the dish. Slip a fringed ring of tissue paper over the end of each rib. Pour the tomato sauce on the dish with the chops, being careful not to get any of it on the paper decorations. Veal requires to be well cooked, but mutton chops, breaded, should be cooked very lightly.

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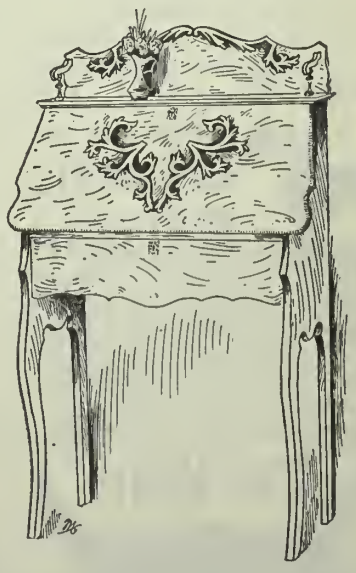

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Roomy: large drawer below desk-part, numerous pigeon-holes and small drawers on the inside.

The catalogue is full of just such tempting offerings as this. You'd better have it.

California Furniture Company.
(N. P. COLE & CO.)
117 Geary St.,
San Francisco.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR WEEK ENDING NOVEMBER 17, 1896.

571,510.—WATER WHEEL BUCKET—A. Chavanne Grass Valley, Cal.
571,646.—TEMPERING COMPOUND—Clark & Neill, Portland, Or.
571,649.—STREET SPRINKLER—Cross & Hill, Los Angeles, Cal.
571,652.—DESK—W. T. Dodd, Prescott, Wash.
571,665.—TOBOGGAN—H. P. Herron, Los Angeles, Cal.
571,529.—FOLDING BED.—H. G. Krasky, S. F.
571,679.—CONVERTING MOTION—V. & M. McCullough, Veronica, Or.
571,730.—ELEVATOR—J. Parkinson, Los Angeles, Cal.
571,731.—ELEVATOR ENGINE—J. Parkinson, Los Angeles, Cal.
571,732.—HYDRAULIC ELEVATOR—J. Parkinson, Los Angeles, Cal.
571,394.—BICYCLE HANDLE AND BELL—Prindle & Lampton, Woodland, Cal.
571,456.—MUCILAGE BOTTLE—C. W. Reeves, Los Angeles, Cal.
571,627.—CAN SOLDERING MACHINE—N. Troyer, Astoria, Or.
571,628.—PROPELLER—W. M. Tucker, Nelson Point, Cal.
571,736—AIR BRAKE—H. C. Zenke, Sandy Point, Wash.
26,310.—DESIGN FOR TYPE—W. F. Cornell, Alameda, Cal.

NOTE.—Copies of U. S. and Foreign patents furnished by Dewey & Co. in the shortest time possible by mail or telegraphic order). American and Foreign patents obtained, and general patent business for Pacific Coast inventors transacted with perfect security, at reasonable rates, and in the shortest possible time.

MORE than one-third of the entire population of the United States now live in cities. In some States it is much greater; in Massachusetts, 70 per cent; in New York, 60 per cent; in Connecticut, 54 per cent; in New Jersey, 52 per cent. In 1790 there were but six cities—i. e., having a population of more than 8000; in 1890 there were 448 such cities. In 1840 there were but three cities with more than 100,000 inhabitants; in 1890 there were 28 such cities. In 1870 there was no city having 1,000,000 inhabitants; in 1890 there were three such cities. In 1896 the new New York is estimated to contain 3,200,000, or nearly as many as the thirteen United States when George Washington took the oath of office as first President. This century came in without a single city in christendom with a million inhabitants. Paris had in 1800 but 548,000; London and its suburbs in 1801, 864,845. The other great English cities had less than 100,000. Great cities could not endure then. First, the people could not be fed on food produced within twenty miles of the place of consumption. Science has now made it possible to transport food half way around the globe and has discovered new methods of preservation as well.

FOR IRRITATION OF THE THROAT caused by Cold or use of the voice, "*Brown's Bronchial Troches*" are exceedingly beneficial.

—The peat land celery crop near Anaheim, Cal., this year will be from 400 to 500 carloads.

One-third of all Harvesting Machinery in use is made by the McCormick Co. of Chicago

Horse Owners! Try GOMBAULT'S Caustic Balsam

A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. *Impossible to produce scar or blemish.* Every bottle sold is warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland O.

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The SPENCER HAY AND STRAW PRESS has. That makes it easy to feed; that's one reason why it WILL BALE THREE TONS MORE hay in 10 hours than any two horse press made. The SMALL BALE PERPETUAL PRESS is also a superior baler. For circulars, prices, etc., write J. A. SPENCER, Box 25, DWIGHT, ILL.

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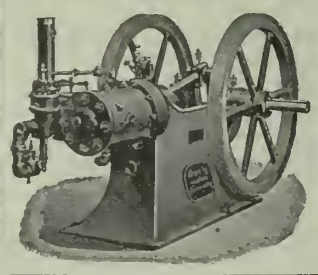

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WRITE FOR ILLUSTRATED CATALOG.

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WORKS: 215,217,219,221,223,225,227,229,231 Bay St. Office: 405-407 Sansome St., San Francisco, Cal.

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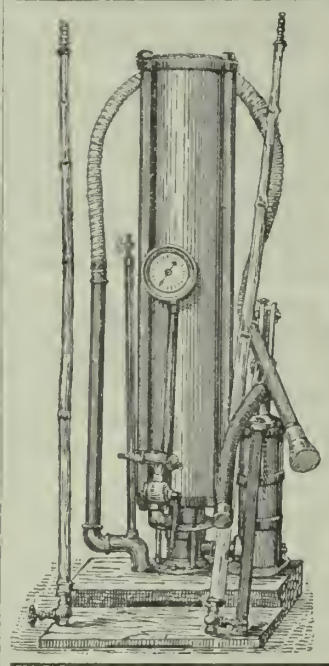

. . . Is the favorite in nearly every fruit-growing country under the sun. Is economical in labor, reliable in service. Has HEAVY, STRONG receptacles, non-corrosive cylinder, valves and plunger packing. THOUSANDS of them are in use.

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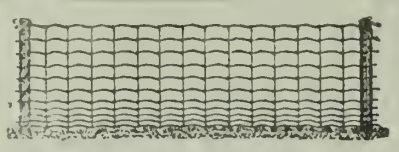

How About That Line Fence?

Would it not be well to get together and adjust the matter, and then put up a permanent Page fence. If John Bull and Venzuela had done that years ago it would have saved Uncle Sam lots of trouble. If "Schomberg" had put 19 bar Page on his line, there would have been no trespassing.

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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Dec. 2, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	63,909	2,745,206	2,035,648
Wheat, ctls	401,810	6,720,744	4,579,637
Barley, ctls	115,177	3,425,333	1,816,233
Oats, ctls	18,525	302,110	328,943
Corn, ctls	6,191	83,521	75,977
Rye, ctls	1,475	109,841	17,512
Beans, sks	3,973	371,710	337,027
Potatoes, sks	15,733	476,908	466,708
Onions, sks	1,013	71,292	60,931
Hay, tons	1,231	75,140	73,821
Wool, bales	1,454	33,010	37,096
Hops, bales	89	6,126	8,020

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	29,608	2,060,932	1,405,291
Wheat, ctls	352,250	6,305,627	4,582,555
Barley, ctls	88,338	2,649,488	1,312,277
Oats, ctls	1,249	12,928	10,245
Corn, ctls	52	5,120	8,973
Beans, sks	68	230,700	179,463
Hay, bales	2,634	23,855	22,099
Wool, lbs	....	4,856,112	7,666,096
Hops, lbs	809	568,209	672,795
Honey, cases	2	1,445	5,780
Potatoes, pkgs	938	35,854	58,253

Grain Freights and Charters.

Not much doing at present in grain charters and prospects are not encouraging for any great activity being experienced in this line in the near future. Two vessels were chartered for wheat to Australia and one to South Africa, the latter being taken at £1 5s, with privilege of two ports. One of the vessels for Australia—a small iron bark—was taken at £1 to Adelaide direct. The other one for the colonies—also a bark—was chartered at a lump sum. Desirable iron ships are not quotable over £1 2s 6d to Cork for orders, usual option, and if pressed to engagement might have to accept less.

Charters.

British bark Andromeda, 1762 tons, wheat to Brisbane; £1.

British ship Largo Law, 1587 tons, wheat to Cape Town or Algoa bay; £1 5s.

Norwegian bark Stjorn, 1458 tons, wheat to Newcastle, Melbourne, Adelaide or Brisbane, or to discharge part cargo at each port; lump sum.

British steamer Lennox, 2361 tons, wheat to Cape Town—chartered in England.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive.
1896	76,029	56,842	205,487
1895	85,768	20,107	235,684

Flour.

This market is showing a generally healthy tone, in sympathy with wheat. Supplies in this center are of quite moderate proportions, both of local and outside mills. Not for a long time has there been less selling pressure manifested than lately. It is the exception where buyers are able to operate at any material concessions from full current rates. In consequence of the generally firm views of holders the movement is a little slow.

Superfine, lower grades	$3 00@3 25
Superfine, good to choice	3 30@3 50
Country grades, extras	4 25@4 50
Choice and extra choice	4 50@4 75
Fancy brands, jobbing	4 75@5 00
Oregon, Bakers' extra	4 25@4 50
Walla Walla, Bakers' extra	4 25@4 50

Wheat.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	5s 3d@5s 4d.	7s 6d@7s 7d.
Freight rates,	26¼@27½s.	18¾@20s.
Local market,	$0.97½@$1.00	$1.47½@1.52½

The prices above are for spot lots of standard No. 1 California in Liverpool, and for good to choice shipping in this city.

The following concerning the wheat crop in an important grain area of South America is from the Liverpool *Corn Trade News* of November 13th:

Our Argentine agent cables us to-day regarding crops, and we give the translation of his message below: "Early damage in Santa Fe was not serious except in the northwest. Hoppers expected to arrive any day. There is a probability of wholesale destruction in most districts. Cordoba—The prospects are good. Entre Rios—Prospects very bad. Buenos Ayres—Prospects uncertain; too early to report definitely; fear to have to report the worst about the end of month. Locusts unprecedented." Our subscribers may place complete reliance upon the bona fide nature of the foregoing report as far as it goes, but it requires careful reading. With the exception of some serious damage in the northwest of Santa Fe and in Entre Rios, the two earliest districts, our agent reports no actual injury to the crop, but expresses himself apprehensive of the result as the invading army of locusts progresses southwards. The importance of the various provinces is as follows: Santa Fe, with about 3,000,000 acres, probably comes first, and it is there that "wholesale destruction in most districts is probable." Buenos Ayres is a big province, but chiefly given over to raising corn; wheat acreage rather less than Santa Fe. Entre Rios is an important wheat grower, with an acreage of nearly 1,000,000, and here the prospects are described as "very bad." Cordoba, at the west of Santa Fe, is a large province, but its wheat acreage is only about the same as that of Entre Rios; here the crop is said to be good.

According to the above, there need be little fear of any competition from the Argentine district this season in the matter of furnishing wheat to Europe, Asia, Africa or Australia. All these countries are to-day wheat buyers, and the United States holds practically undisputed for the time being the market furnishing the supplies. Under the circumstances it is difficult to see how, during the balance of the current season, wheat values can be depressed to any very material degree. The most encouraging feature for the growers on this coast is the favorable outlook for next season, not only for a liberal yield, but for remunerative prices. Seldom have the wheat farmers of the Pacific coast had brighter crop prospects at corresponding date. The wheat market in this center has been in the main strong since last review. Values both on and off the Call Board showed decided upward tendency during the latter part of last week. On Saturday last Dec. wheat developed more firmness than May option, proving spot wheat to be against buyers. Both options were higher Monday, and spot wheat was held at an advance. Options Tuesday were lower, and there was further depression Wednesday in Call Board prices, with Chicago market showing a decline Wednesday of about a cent from previous day's figures. Buyers in the spot market were not able to operate at materially lower figures than had been ruling, although there was naturally an easier tone.

California Milling	$1 50 @1 57½
Cal. No. 1 shipping, alongside	1 47½@1 50
Oregon Valley	1 45 @1 50
Walla Walla Blue Stem	1 37½@1 52½
Walla Walla Club	1 37½@1 45

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, $1.48½@1.52¾.

May, 1897, delivery, $1.57⅛@1.63½.

Wednesday, at regular noon session of Call Board, December wheat was offered at $1.48¾; May sold at $1.59½@1.57⅛.

Barley.

It has begun to dawn upon operators that in consequence of the heavy export movement in this cereal the current season, stocks have been reduced to light proportions, and that higher values are justified than have been lately current. The demand has been good for desirable qualities of Feed barley, serviceable for Call Board use, and such brought improved figures. Brewing barley was also more firmly held, but brewers were slow to operate at any marked advance on previous rates. Chevalier did not show any special changes in quotable values, but there is little offering, most of this variety which would grade No. 1 or better having been shipped to Europe. Considerable of the Chevalier remaining, and clean enough for the purpose, will be required for seeding. Foul and otherwise seriously faulty Chevalier has to go for horse feed, and will not command any more than the most ordinary qualities of the common variety of barley, the latter receiving the preference for feed purposes.

Feed, No. 1 to choice	90 @92½
Feed, fair to good	85 @87½
Brewing, No. 1 to choice	95 @1 00
Chevalier, No. 1 to choice	1 06@1 15
Chevalier, No. 2	85 @90

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, 90@91⅛c; May, 1897, delivery, 96c@$1.

Wednesday at regular noon session of the Call Board, December feed sold at ——; May feed at 96@97c.

Oats.

There have been tolerably liberal receipts of this cereal the past week, especially from Washington, but most of the arrivals had been previously purchased and came to large consumers. Values continued favorable to the selling interest, particularly so for choice to fancy qualities of either White, Black or Surprise oats. Gray were in such scanty stock as to be hardly quotable. Surprise were offered very sparingly. Feed oats of high grade, desirable for race horses, were in request at comparatively fancy figures, some commanding above quotations; but to fill the requirements for this purpose the oats had to be practically faultless.

White Oats, fancy feed	1 35 @1 40
White, good to choice	1 22½@1 30
White, poor to fair	1 05 @1 15
Gray, common to choice	1 20 @1 35
Milling	1 25 @1 35
Surprise, good to choice	1 50 @1 60
Black Russian	1 15 @1 35
Red	1 10 @1 30

Corn.

Recent importations have given the market a fairly liberal supply of Large Yellow, and values for this variety tend fully as much in favor of buyers as previously noted. Small Yellow is in moderate supply; but, being in request for chicken feed instead of wheat, naturally commands tolerably good prices. Large White continues slow of sale at a low range of values, being in poor demand either for local use or for shipment.

Large White, good to choice	85 @ 87½
Large Yellow	82½@ 85
Small Yellow	1 00 @1 05

Rye.

There is not much now arriving, and there are no evidences of great quantities being held in the interior. Market is showing steadiness.

Good to choice, new	1 05 @1 10

Buckwheat.

No trouble is experienced in finding custom for desirable qualities, the Silverskin variety receiving the preference.

Good to choice	1 25 @1 30
Silverskin	1 30 @1 35

Beans.

The following is a recent review of the Eastern bean market by a New York contemporary. Prices given are per bushel of 60 pounds:

There has been no material reduction in the receipts and with a very dull trade market has ruled weak and lower for most varieties of beans. At the close, however, advices indicate more moderate shipments and there is more disposition to hold stock steady, as bottom seems to have been reached for the present at least. Marrow were cut to $1.40 early in the week, but are not easily bought at that now, and tone is steady. Pea have sold mainly at $1.10—a decline of 5c. Medium not plenty, but very slow, and while $1.15 has been accepted in some cases, most stock is held higher. Export orders for Red Kidney were again light this week and price was reduced to $1.40. Not many White Kidney offering and tone firm. Some call for Black Turtle Soup, but few, if any, offering. Yellow Eye scarce and generally held above quotations. California Lima and Lady Washington both lower and dull, though occasionally held slightly higher than quoted—$1.40 for the former, and $1.10@1.12½ for the latter. Green peas have been very dull, but held steady at unchanged prices.

Small quantities of beans have gone outward the past week by Panama steamer for New York. Trading on local account has not been active. The amount arriving from producing points, however, has been light in the aggregate, and it was the exception where any special selling pressure was exerted or where buyers were able to obtain any noteworthy concessions in their favor. Bayos head the list in point of firmness. Limas are not obtainable at what could be termed easy rates. Large Garbanzos are scarce and buyers of the same find it necessary to pay tolerably stiff prices.

Pea, fair to good, 100 lbs	$1 30 @1 50
Small White, good to choice	1 30 @1 40
Lady Washington	1 20 @1 30
Butter, small	1 25 @1 40
Butter, large	1 40 @1 60
Pinks	1 00 @1 10
Bayos, good to choice	1 50 @1 60
Reds	1 25 @1 35
Red Kidneys	2 00 @2 25
Limas, good to choice	1 90 @2 05
Black-eye Beans	1 15 @1 30
Horse Beans	1 00 @1 10
Garbanzos, large	2 50 @2 75
Garbanzos, small	1 50 @1 75

Dried Peas.

The local mills are carrying eastern product in sufficient quantity to make them indifferent to local offerings. Very few of the latter are choice, and this operates against their sale.

Green Peas, California	$1 15 @1 30
Niles Peas	1 10 @1 25

Hay and Straw.

There is no change for the better to record in the general condition or in quotable values of the hay market. The quantity coming forward lately cannot be termed heavy, but offerings are proving more than sufficient for the demand. Much less hay is being consumed in this city than in former years, due partly to horses being dispensed with on most of the street car lines. The use of the bicycle has also tended to same result by cutting down the business and revenue of livery stable men. Alfalfa hay is proving an exception and commanding a moderate advance.

Wheat	7 50@10 50
Wheat and Oat	7 00@10 00
Oat	6 00@ 8 50
Barley	6 00@ 8 00
Clover	6 00@ 7 50
Stock Hay	4 50@ 5 50
Alfalfa	6 00@ 7 70
Compressed	6 00@ 9 50
Straw, ℔ bale	35@ 45

Wool.

Business is mostly in scoured stock, scourers working off previous accumulations. As to the wools in the grease, there is no lack of inquiry for bright and free of sound staple, but it is difficult to get buyers and sellers to agree on terms, asking prices being higher than are obtainable or than are warranted by the conditions existing in Eastern manufacturing centers. Manufacturers continue to be handicapped by having to compete with foreign shoddies and with woolens of a low grade. Offerings of heavy and defective fleece wools are receiving little or no attention, even at low figures.

SPRING.

Northern California free	— @—
Northern defective	— @—
San Joaquin Foothill, good to choice	— @—
San Joaquin, 12 months	— @—
San Joaquin and Southern, 6 months	— @—
Nevada, as to condition	7 @ 9
Oregon Valley, select	9½@11
Oregon Valley, low grade	8 @ 9½

FALL.

Humboldt and Mendocino	7 @ 9
Northern California free	7 @ 9
Northern defective	5½@ 7
Middle Counties free	6 @ 7½
Middle counties defective	5½@ 6½
San Joaquin and Southern	3½@ 5

Hops.

Mail advices from New York furnish the following concerning the crop market on the Atlantic side:

English dealers have shown increasing anxiety to secure some of our best hops, owing to shortage in their own crop and with orders still coming forward freely, and Eastern and Western brewers, as well as dealers in all parts of the country, showing increasing anxiety to secure supplies, a further sharp upward turn in prices has resulted. The market is certainly in a very strong position. Late advices from the interior report active competition to obtain most desirable grades, with sales aggregating 1500 to 2000 bales in Schoharie and Otsego counties at 15c, both to dealers and for export. There is an active interest here, and fully as high could be probably reached if the same quality were available. Pacific Coast advices are also very strong, with most of the more desirable grades already contracted for. Medium and lower grades only moderately active, but prices held higher and with confidence all along the line. English advices continue very firm, while some advance is reported in Germany.

Some of the local dealers are trying to make it appear that this market is less favorable to sellers than a week or two ago, owing to the foreign demand having dropped off. The discovery of some hops still in the bands of growers or outside parties has had, probably, more to do with the reported weakness than any decrease in the foreign demand. Buyers will find hops in the hands of the jobbing trade about as firmly held as a fortnight ago, but when it comes to selling hops to these same dealers the value suddenly depreciates to a very material degree.

Fair to choice, 1896 crop	9 @12½

Millstuffs.

Bran has been commanding tolerably good figures. Middlings continued in limited stock and choice favored sellers. Ground and cracked corn remained about as last quoted. Rolled barley ruled firmer.

Bran, ℔ ton	13 00@14 50
Middlings	16 50@20 00
Barley, Rolled	19 00@20 00
Cornmeal	20 00@20 50
Cracked Corn	20 50@21 00

Seeds.

Business doing in mustard seed is at practically unchanged figures, with a fair inquiry at ruling rates. This week's Panama steamer took 72,762 pounds, and a sailing vessel took 97,571 pounds, both for New York. Alfalfa is meeting with moderate custom on seeding account and commanding steady prices. Flaxseed was in heavy receipt this week. Market for the same is not noteworthy for firmness.

	Per ctl.
Mustard, Yellow	2 00@2 25
Mustard, Trieste Seed	3 00@3 25
Mustard, Wild Brown	2 25@2 50
Flax	1 30@1 50

	Per lb.
Canary	2¼@2¾
Rape	2¼@2¾
Hemp	3¼@3½
Alfalfa, Utah	6¼@6½

Bags and Bagging.

Very little trading to record in bags or bagging of any description. Holders are, as a rule, insisting on full current figures, claiming their inability to replace stocks at prices warranting the acceptance of any lower rates than are now asked.

Grain bags, 22x36, spot	4½@--
Wool sacks, 4 lb	28 @—
Wool sacks, 3½ lb	26 @—
Gunnies	9 @—
Bean bags	4 @ 4¼
Fruit sacks, cotton	5½@ 7½

Hides, Pelts and Tallow.

Hide market is ruling steady at the last noted advance. Pelts are going at generally

unchanged figures, but market cannot be termed firm. Tallow of prime quality is selling to fair advantage.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	8 @ 8½	7 @ 7½
Medium Steers, 48 to 56 lbs	7 @ 7½	6 @ 6½
Light Steers, under 48 lbs	6 @ 6½	5 @ 5½
Heavy Cow Hides, over 50 lbs.	6 @ 6½	5 @ 5½
Light Cow Hides, under 50 lbs.	6 @ 6½	5 @ 5½
Wet Salted Kip	6 @ 7	5 @ 6
Wet Salted Veal	6 @ 7	5 @ 6
Wet Salted Calf	7 @ 8	6 @ 7
Dry Hides	— @13	— @10
Dry Kip and Veal, 11 to 16 lbs.	— @10	— @ 8
Dry Calf, under 4 lbs	— @15	— @10

Horse Hides, large dry	75@ —
Horse Hides, large, wet salted	75@1 00
Horse Hides, medium	50@ —
Horse Hides, small	25@ —
Colts' Hides	25@ —
Pelts, long wool, per skin	50 @60
Pelts, medium, per skin	40 @50
Pelts, short wool, per skin	20 @35
Pelts, shearling, per skin	10 @15
Deer Skins, best summer	20 @25
Deer Skins, good medium	15 @20
Deer Skins, thin winter	7 @ 9
Elk Hides	7½@ 9
Tallow, good quality	3 @—
Tallow, No. 2	2½@—
Goat Skins, perfect	20 @35
Goat Skins, damaged	10 @20
Kid Skins	5 @—

Honey.

Spot supplies are not heavy and are largely Comb honey. Market is moderately firm for choice White Comb, but is weak and slow for Comb of low grade. Water White Extracted is scarce and wanted, but offerings of Amber and Dark Extracted receive no special attention from buyers.

White Comb, 1-lb frames	10 @—
Amber Comb	7½@ 9
Extracted, White Liquid	5½@ 6
Extracted, Light Amber	4¼@ 4¾
Amber Colored and Candied	3¾@ 4¼
Dark Tule	2¾@ 3

Beeswax.

Market is quiet at the ruling quotations, with offerings and demand both of a limited order.

Fair to choice, ₱ lb	25 @27½

Live Stock and Meats.

Hog market has not shown much firmness since last review, arrivals continuing about as large as warranted by capacity of packers. Beef market showed some improvement. Mutton sold at a little higher range than last quoted.

Beef, 1st quality, dressed, net ₱ lb	5½@ 6
Beef, 2d quality	4½@ 5
Beef, 3d quality	4 @—
Mutton—ewes, 5@5¼c; wethers	6 @—
Hogs, hard grain fed, medium size, fat	3⅛@ 3¼
Hogs, large hard	3⅛@ 3¼
Hogs, soft and feeders	— @—
Hogs, country dressed	4 @—
Veal, small, ₱ lb	5 @ 6
Lamb, spring, ₱ lb	6½@ 7

Poultry.

There was a decided break in prices of turkeys immediately following the last review, the supply proving considerably larger than was required at the advanced figures established Thanksgiving time. In market for other poultry no special changes were developed. There has been a fairly healthy tone to the market the current week for arrivals of most kinds showing prime condition. Fowls most in favor were young chickens, big fat hens, and ducks of large size and in fine flesh.

Turkeys, dressed, per lb	13@ 15
Turkeys, live hens, ₱ lb	12@ 13
Turkeys, live gobblers	13@ 14
Hens, Cal., ₱ doz	3 50@5 00
Roosters, old	4 00@4 50
Roosters, young, (full-grown)	4 00@4 50
Fryers	3 50@3 75
Broilers, large	3 25@3 50
Broilers, small	2 75@3 25
Ducks, young, ₱ doz	4 00@5 00
Ducks, old	3 50@4 50
Geese, ₱ pair	1 25@1 75
Goslings, ₱ pair	—@—
Pigeons, Old, ₱ doz	1 00@—
Pigeons, Young	1 25@1 50

Butter.

Receipts have not been heavy, but the certainty of increased arrivals at an early day imparts an easy tone to the market, especially for any other than gilt-edge. Butter coming up to latter mark is in decidedly limited supply, and from fastidious customers commands very good prices. Buyers willing to put up with slight defects in the quality are able to purchase at much easier figures.

Creamery extras, ₱ lb	25 @—
Creamery firsts	23 @24
Creamery seconds	22 @23
Dairy select	22½@—
Dairy seconds	15 @17
Dairy, soft and weedy	— @—
Mixed store	11 @13
Creamery in tubs	16 @17
Pickled roll	16 @17
Dairy in tubs	15 @16
Firkin, Cal., choice to select	15 @16
Firkin, common to fair	11 @12½

Cheese.

The wholesale and jobbing depots are very lightly stocked, and there is not much in the hands of retailers. Market is strong at the quotations noted, with sales in a small way at higher figures.

California fancy flat, new	11 @—
California, good to choice	9½@10½
California, fair to good	8½@ 9½
California, "Young Americas"	10 @12½

Eggs.

While arrivals from some interior points are showing slight increase, the aggregate of receipts is still light. For choice, fresh, large, white, and in every way such as most particular buyers would naturally seek after, the market was still rather favorable to the selling interest, only a very small proportion of the eggs now coming forward being of this sort. Small, dirty, or otherwise faulty, find slow custom at comparatively low prices, these having to come into direct competition with ordinary cold storage stock. Market for choice Eastern was firmer and higher, such being offered very sparingly at present.

California, select, large white and fresh	35 @37½
California, select, irregular color & size	27½@32½
California, good to choice store	25 @27½
California common to fair store	20 @24
Oregon, prime	— @—
Eastern, as to section and grading	24 @30
Eastern, seconds	16 @19
Duck eggs	25 @—

Vegetables.

Onions are in rather light receipt, and only a small proportion of stocks show desirable quality. For the latter sort the market is favorable to sellers. Defective qualities are obtainable at tolerably easy figures. Other vegetables quoted herewith are not making much of a showing, as is customary at this season of the year.

Beans, Garden, ₱ lb	4@ 6
Beans, Lima, ₱ lb	—@ —
Cabbage, choice garden, ₱ 100	50@ 60
Cauliflower, ₱ doz	40@ 50
Cucumbers, Alameda, large box	—@ —
Egg Plant, ₱ box	30@ 40
Garlic, ₱ lb	1½@ 2
Mushrooms, Buttons, ₱ lb	25@ 30
Musbrooms, Wild, ₱ lb	10@ 20
Okra, Green, ₱ box	50@ 75
Onions, Red, ₱ cental	—@ —
Onions, Yellow, good to choice	50@ 60
Peas, Green, ₱ lb	4@ 6
Peppers, Green Chile, ₱ box	25@ 50
Pepper, Bell, ₱ large box	40@ 50
Rhubarb, ₱ box	75@ 1 00
Squash, Cream, ₱ box	25@ 35
Tomatoes, River, per large box	—@ —
Tomatoes, Bay, ₱ box	30@ 50

Potatoes.

Market presented a somewhat better tone than for a week or two preceding. Quotable values did not show many or marked changes, but common qualities were in less excessive stock, and sales at full current figures were more frequent than during preceding week. Choice to select Burbanks were not readily obtainable in large quantity, and ruled decidedly in sellers' favor. Sweets brought, as a rule, steady rates.

IN SACKS.

Early Rose, River, ₱ cental	35@ 50
Peerless, River	—@ —
Reds, River	40@ 50
Garnet Chile, Mission	—@ —
Burbanks, River	35@ 50
Burbanks, Salinas	60@1 10
Burbanks, Oregon	50@ 90
Sweet Potatoes	75@1 25

The Fruit Market.

Fresh Fruits.

Aside from apples, there is little now offering in the line of deciduous fruits. Apples are in moderate receipt from all Pacific coast points, but there have been lately tolerably free arrivals from the East, and these importations have interfered somewhat with the advantageous sale of the home product. Some very choice Ben Davis were received from Iowa, for which $4.50 per barrel was asked, but $4 was about the utmost obtainable in a wholesale way. Some frozen apples arrived from Missouri, and for these $1.50 per barrel was a full quotable figure. All seriously defective qualities, whether from worms, specks or other cause, are meeting with slow sale at comparatively low prices.

Pears of all descriptions are in light receipt and that they will thus continue until the end of the season is altogether likely. Offerings, which are sound and palatable and desirable for immediate table use, are in request at fully as good prices as previously quoted, market being firm for choice to select. Inferior descriptions are meeting with very slow custom at a low range of values.

Grapes are still on market but are not much sought after and are going at lower figures than last quoted, despite very limited receipts. Most consumers have had a sufficiency of this fruit for the season. In addition to this, the cool weather and the rather poor quality of most offerings combined to make it difficult, to sell the fruit readily at what could be termed good prices.

Persimmons ruled about the same, as regards quotable values, as for a week or two preceding. There were no heavy receipts, but it was the exception where buyers took hold freely or where satisfactory prices were realized.

Strawberries were represented to the extent of a few chests, but they were so ordinary and attracted so little attention that they were not quotable in a regular way.

Cranberries ruled about as last quoted, both for eastern and home product. The former are held at $8@9 per barrel, and Oregon are jobbing at about $2.50 per box.

Apples, fancy, 4-tier, per box	1 00@ 1 25
Apples, good to choice, 50-lb box	75@ 90
Apples, fair to good, 50-lb box	60@ 75
Apples, common, ₱ 50-lb box	35@ 50
Apples, Eastern, ₱ bbl	2 50@ 4 50
Pears, Winter Nelis, per box	50@ 1 25
Pears, other kinds, ₱ box	40@ 75
Persimmons, ₱ box	40@ 75
Pomegranates, ₱ box	—@ —
Quinces, ₱ box	—@ —
Nutmeg melons, ₱ box	—@ —
Cantaloupes, per crate	—@ —

Berries.

Blackberries, ₱ chest	—@ —
Cranberries, Eastern, ₱ bbl	8 00@ 9 00
Cranberries, Oregon, ₱ box	2 50@ —
Currants, Red, ₱ chest	—@ —
Raspberries, ₱ chest	—@ —
Strawberries, Longworth, ₱ chest	—@ —
Strawberries, Large, ₱ chest	—@ —
Whortleberries, ₱ lb	—@ —

Grapes.

Black, ₱ box	35@ 60
Cornichon, ₱ box	40@ 65
Fontainebleau, Cal., per crate	—@ —
Fontainebleau, Cal., per box	—@ —
Isabella, ₱ crate	—@ —
Muscat, per box	—@ —
Muscat, ₱ crate	—@ —
Muscat, ₱ ton	—@ —
Mission, per ton	—@ —
Rose of Peru, ₱ box	—@ —
Rose of Peru, ₱ crate	—@ —
Royal Isabella, ₱ crate	—@ —
Seedless Sultana, ₱ box	—@ —
Tokay, ₱ crate	—@ —
Verdel, ₱ box	40@ 55
Zinfandel, ₱ ton	—@ —

Dried Fruit.

The eastern fruit market is thus reviewed, under recent date, by a New York authority:

Evaporated apples have shown a little more activity this week, though the increased business has been done by shading prices. Rates prevailing in the interior have been so low that exporters and large operators have supplied their wants direct, and trade here has been confined mainly to small jobbing lots. Fancy are scarce and selling at 5@5¼c, rarely higher, with choice jobbing from 4¼@4¾c, latter for a very high grade only, and to move large lots close to 4c would have to be accepted. Prime have had sales as low as 3⅝@3¾c—some doubtful prime 3½c, but in a jobbing way a fraction more is obtained. Poorer grades have little attention and values uncertain. Sun-dried apples scarce and nominal. Chops quiet but steady. Cores and skins in demand but firm, though 1@1½c only exceeded for choice heavy packed. Hardly enough peaches or cherries here to test values. Raspberries are in few hands and held very firmly, generally at 16½c. Blackberries have advanced, with few obtainable even at the outside quotation. Huckleberries quiet but steady. California fruit meeting a good demand at rather high prices.

Apricots, Cal. Royal, bxs., 1896, per lb	10 @12
Apricots, Cal. Royal, bags, 1896, per lb	9 @11
Apricots, Cal. Moorpark, 1896, bxs	12 @15
Peaches, California, 1896, peeled, per lb.	12 @15
Peaches, Cal., 1896, unpeeled, lb	6½@10
Prunes, Cal., 1896, as to size	4 @ 8

While the market in this center is not dead, it is far from being active, but the condition is not a phenomenal one, for it is seldom the month of December is accompanied by any materially different conditions in the dried fruit trade than at present exist. The last Panama steamer took about 48 tons, principally prunes, of which the major portion, 885 fifty-pound boxes, was destined for New York. Of the balance, 35,680 pounds were billed for Germany. Evaporated apples are now arriving from the East via Panama, and these are offering at 4¾@5c per pound here. Apples of home curing are held at previously quoted range, but with imported offering at the lower figures, the market for the home product naturally tends against sellers. There are no large stocks of any description of dried fruit, and values for all sorts remain nominally as last quoted. Under selling pressure, however, lower figures than are nominally current would have to be accepted.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	7½@ 8
Apricots, Royal, fancy	9 @10
Apricots, Moorpark	10 @12½
Apples, in boxes	5½@—
Nectarines, White	5 @ 5½
Nectarines, Red	4 @ 5
Peaches, unpeeled, prime to choice	5 @ 6
Peaches, unpeeled, choice to fancy	6 @ 7
Peaches, peeled, in boxes	11 @12½
Pears, peeled and sliced	4 @ 5
Pears, unpeeled Bartletts, halved, fancy	6½@ 7
Pears, halved, unpeeled Bartletts	4 @ 5
Pears, quartered, unpeeled Bartletts	4 @ 5
Plums, pitted	4 @ 5
Prunes, in sacks, 4 sizes	3½@—
Prunes, in sacks, small sizes	2½@—
Prunes, Silver	7½@ 8

COMMON SUN-DRIED.

Apricots, ordinary	5½@ 7
Apples, sliced	2½@ 3
Apples, quartered	3 @ 3¼
Figs, Black	2½@ 3
Figs, White	3 @ 4
Plums, unpitted	1½@ 2

Raisins.

This market shows much the same strong tone as previously noted, with stocks of all kinds of slim proportions, both at points of production and in this center. Although there is little doing in raisins at this date, they are as a rule held at full current figures, owners feeling confident that there will be no difficulty in securing an outlet later on for the light supplies remaining on hand.

FRESNO DELIVERY, F. O. B.

Imperial Clusters, per box	3 00@— —
Debesa Clusters, per box	2 50@— —
Fancy Clusters, per box	1 60@ 1 75
Boxes, London layers, 20-lb box	1 20@ 1 25

(Usual advance for fractions.)

Loose Muscatel, 4-crown, ₱ lb	5¼@5½
Loose Muscatel, 3-crown	4¼@4½
Loose Muscatel, 2-crown	3¾@3½
Sultanas	5¾@6
Seedless Muscatel	4½@5
Dried Grapes	3 @—

Citrus Fruits.

Oranges are offering in fair quantity, not

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Strong, Light Draft, Material and Workmanship First Class in Every Respect.

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All over the Pacific States, to Arizona and Nebraska, also to Honolulu and other foreign countries. **Barb Wire** especially low this month; write us for prices. **Wire Nails** also very low; we make a specialty of low prices on all kinds of wire goods, including **Wire Netting**; we enjoy answering letters of inquiry.

K. C. Baking Powder, 25 ozs. for 25c; new goods, genuine article, 2 doz. for $4.20

Corn Meal, 10-lb. sacks yellow or white, fresh, warranted, per sack .25

Crackers—We still give 10% off regular cracker list; this discount will shortly be reduced.

WE WILL QUOTE YOU PRICES ON ANYTHING ON EARTH.

J. M. MOORE, 221 FRONT STREET, SAN FRANCISCO, CALIFORNIA.

only home product, but importations from Mexico and Japan. The imported Mandarins are given the preference by the Chinese and Japs, as well as by some of the white people, owing to their being riper and sweeter than most of the other oranges now on market. Well-colored domestic are, however, selling to good advantage, even if not thoroughly ripe. More especially is this the case with bright Navels.

Lemon market has not developed any new or noteworthy features since last review. Demand has been rather slow, and prices for other than strictly choice to select are poorly sustained. Limes are offering at unchanged rates, with inquiry for the same light.

Oranges—Wash. Navels, ℔ box	2 50@ 4 00
Cal. Mediterranean Sweet	— —@— —
Cal. Seedlings	1 50@ 2 50
Cal. Valencias	— —@— —
Japanese, Mandarin, small box	90@ 1 15
Mexican	— —@— —
Grape Fruit, ℔ case	6 00@ 7 00
Lemons—Cal., select, ℔ box	2 50@ 3 00
Cal., good to choice	1 50@ 2 00
Cal., common to good	1 00@ 1 50
Limes—Mexican, ℔ box	4 00@ 5 00
Cal., small box	75@ 1 25

Nuts.

No wholesale trading worth mentioning is being transacted at present in either almonds or white walnuts. Jobbers are doing some business on holiday account at quotably unchanged figures. Peanuts of home crop are offering a little more freely, and market for same presents a rather easy tone.

California Almonds, paper shell	8 @ 9½
California Almonds, soft shell	6 @ 8
California Almonds, standard	5 @ 6
California Almonds, hard shell	3 @ 4
Walnuts White, paper shell	9 @10
Walnuts White, soft shell	8 @ 9
Walnuts White, Cal., hard shell	6 @ 7
Chestnuts, Cal. Italian	8 @10
Peanuts, Cal., fair to prime	4 @ 4¾
Peanuts, Eastern hand-picked	5 @ 6
Pine Nuts	9 @10

Dried Fruits at New York.

NEW YORK, Nov. 28.—Apricots, bags, 9@11c; peaches, unpeeled, 7@9c; peeled, 14@15c; prunes, four sizes, 5⅛c; raisins, 2-crown, L. M., 4¾c; do 3-crown, 5¼@5¾c; do 4-crown, 5¾@6¾c; do London layers, $1.45@1.50; do clusters, $1.75@2; almonds, soft-shell, 9@11c; paper-shell, 11½@12½c; walnuts, standard, 8½@9c; soft-shell, 9¾@10½c.

NEW YORK, Dec. 1.—Apricots, bags, 9@11c; peaches, peeled, 14@15c; unpeeled, 7@9c; prunes, four sizes, nominal, 5⅛@5¼c; raisins, 2-crown, L. M., 4¾c; do 3-crown, 5½@5¾c; do 4-crown, 6@6¾c; do London layers, $1.40@1.50; do clusters, $1.75@2; almonds, paper-shell, 11½@12½c; soft-shell, 9@11c; walnuts, standard, 8½@9c; soft-shell, 9¾@10½c.

Practical Test of the Pasteur Virus.

A. H. Hammond of Grand Junction, Colorado, writes under date of Nov. 7th to Harold Sorby, manager of the Pasteur Vaccine Co., Chicago, that he "emptied three bottles of the Pasteur Virus into a gallon can, put into it about 100 pieces of bread, some corn, wheat and meat, and, after they were well soaked, put them into prarie dog holes. In two or three days the rodents became stupid and seemed to be deranged. About the fourth day they began to die. I distributed the three bottles in two prairie dog towns where almost any day before putting out the virus could be seen from 100 to 250 varmints. I have not seen a live prairie dog in either of these towns for three weeks. The dogs have gone to their 'happy hunting ground.' As I used about 300 pieces of bait, I am not positive that the dogs contracted a disease, from some that had eaten the virus. It may be possible that each dog got a piece of the bait, but it is not probable. I am convinced that this virus will do more than you claimed for it, when used properly."

For full particulars concerning the use of this virus, free of charge, address the Pasteur Vaccine Co., No. 56 Fifth avenue, Chicago.

A Free Book for Every Poultryman

The first incubator book to arrive this season is that of the Reliable Incubator and Brooder Co. of Quincy, Ill. It is a beautifully printed and illustrated manual of poultry information, discussing pretty much all the general subjects of interest to chicken men. It will be sent free. Write to the "Reliable Incubator and Brooder Co.," Quincy, Ill.

CONSIDERABLE more interest in the evolution of the horseless carriage is taken in Europe than in this country. This is probably largely due to the fact that the roads abroad are so much better than ours. Considerable money has been put into various devices, and no end of ingenuity engaged in improving or designing methods. Exhibitions of carriages have been numerous and popular, and large amounts of capital have been invested in experiments. James Long, in *Industries and Iron*,

THE value of the future depends entirely upon the value attached to today; there is no magic in the years to come; nothing can bloom in those fairer fields save that which is shown to-day.

Iron Bar 2000 Years Old.

S. T. Wellman has a portion of a round bar of iron—and a few like pieces are held in the United States—that antedates the Christian era by two or three centuries. The iron, which had been originally hammered into plates, and was deeply rusted from age, was found a few years ago by Dr. Karl Humann in the ruins of the temple of Artemus Leucophrine, at Magnesia, Asia Minor. Dr. Humann sent it to Hibauer, in Germany, and the latter made a portion of it a memorial tablet. This was presented to Bismarck in April, 1894. It bore this inscription in German:

"For you, Prince Bismarck, the Iron Chancellor, Hermogenes forged this iron at Magnesia, 200 B. C. Humann found it in the Temple of Artemus after 2000 years and sent it to Hallbauer, who gave it the form in which it shall bear witness that your deeds shall outlive millenia."

At the time of the presentation to Bismarck, Stahl & Eisen gave a photographic reproduction of the plate and an account of the discovery of the iron. The temple of Artemus, one of the most magnificent of ancient monuments, was rebuilt about 300 B. C., though by some the date is put at 200 B. C.

The metal is described as approximating steel in its composition, though closely akin to malleable iron. It was made at a low temperature and great care was necessary in the forging. It was found rather difficult to roll the pieces that were preserved as relics, these having a diameter of about one-half inch.

THE Commission which has been inquiring into the proposal to unite New York and Philadelphia by means of a ship canal, has issued its report. Two surveys were made under the direction of the Commission. By either route vessels would use the Delaware river from Philadelphia to Bordentown. Thence a canal would be cut across New Jersey, entering the sea at Sandy Hook. The distance between the two cities would thus be reduced from 274 miles to 92 miles, of which 31½ miles would represent the canal.

How's This?

We offer One Hundred Dollars Reward for any case of Catarrh that cannot be cured by Hall's Catarrh Cure.

F. J. CHENEY & CO., Props., Toledo, O.

We, the undersigned, have known F. J. Cheney for the last 15 years, and believe him perfectly honorable in all business transactions and financially able to carry out any obligation made by their firm.

WEST & TRUAX, Wholesale Druggists, Toledo, O.
WALDING, KINNAN & MARVIN, Wholesale Druggists, Toledo, Ohio.

Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Price 75c. per bottle. Sold by all Druggists. Testimonials free.

Hall's Family Pills are the best.

ACCORDING to *Engineering*, some recent researches by Captain Abney show that the light of the starry sky is to that of the full moon about as 1:44,000. The latter is usually considered to be about as 1:600,000 to that of the sun at noon, so that we receive over 13,000,000 million times as much light as from the stars, taking both hemispheres into consideration.

THE phenomena of rain are imitiated by Prof. Errera, of Brussels University, in a beaker. The glass, 8 inches tall by 5 in diameter, is half filled with 92 per cent alcohol, covered with a saucer and thoroughly heated over a water bath without boiling the liquid. It is then carefully removed to a wooden table. Soon the alcohol vapor is condensed into visible clouds by the cooling saucer, innumerable miniature droplets of rain fall and the clouds become gradually lowered away from the saucer. The miniature storm may last half an hour. The action is intensified if the warm saucer is replaced by a cold one. Whirlwinds and squalls are produced when the alcohol is very warm, and if the liquid is warmer on one side the clouds may be seen to rotate around a horizontal axis.

SPECIAL TREASURY AGENT AYER, in his report on the domestic tin industry, states that during the fiscal year ended June 30, 1896, the production in the United States of commercial tin and terne plates was 307,228,621 pounds, against 193,801,073 pounds produced during the previous fiscal year, showing thereby an increased production of more than 58 per cent. Of the production for the year, 303,002,098 pounds, or more than 98½ per cent, were made from sheets rolled in the United States, against about 83 per cent made from such sheets during the fiscal year ended June 30, 1895. The production of black plates in the United States during the fiscal year was 334,014,793, as against 148,443,319 for the previous year, showing an increased production of about 80 per cent.

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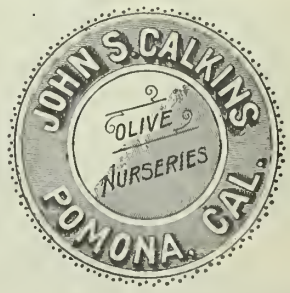

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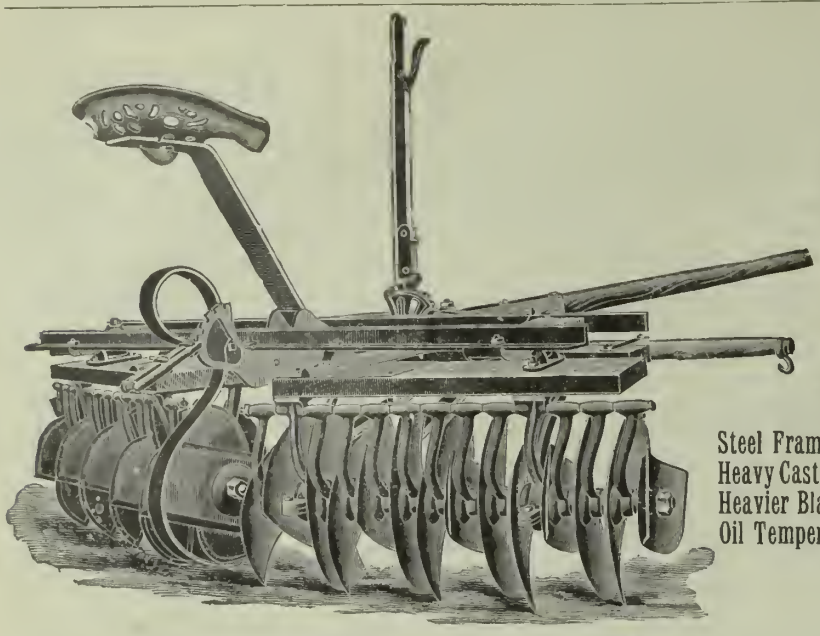

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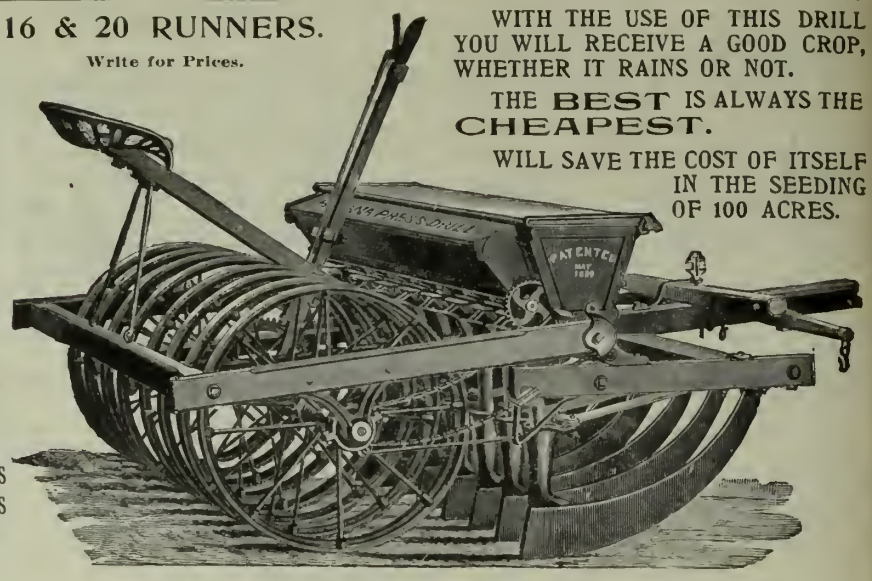

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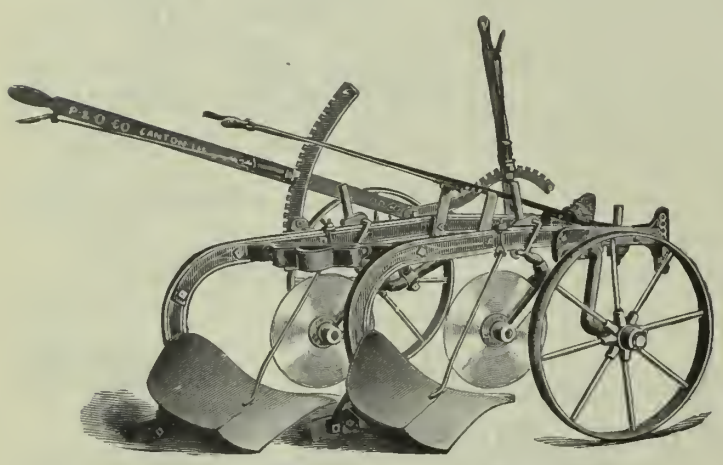

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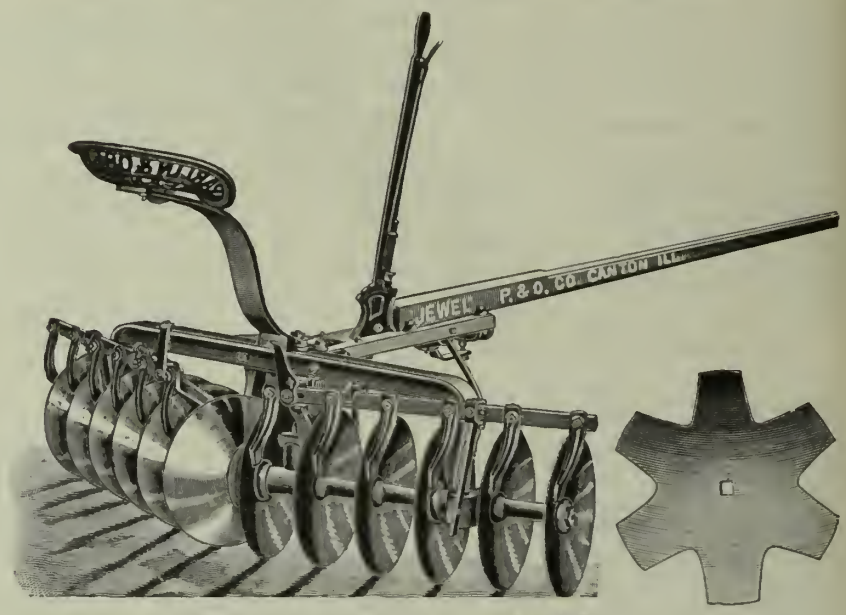

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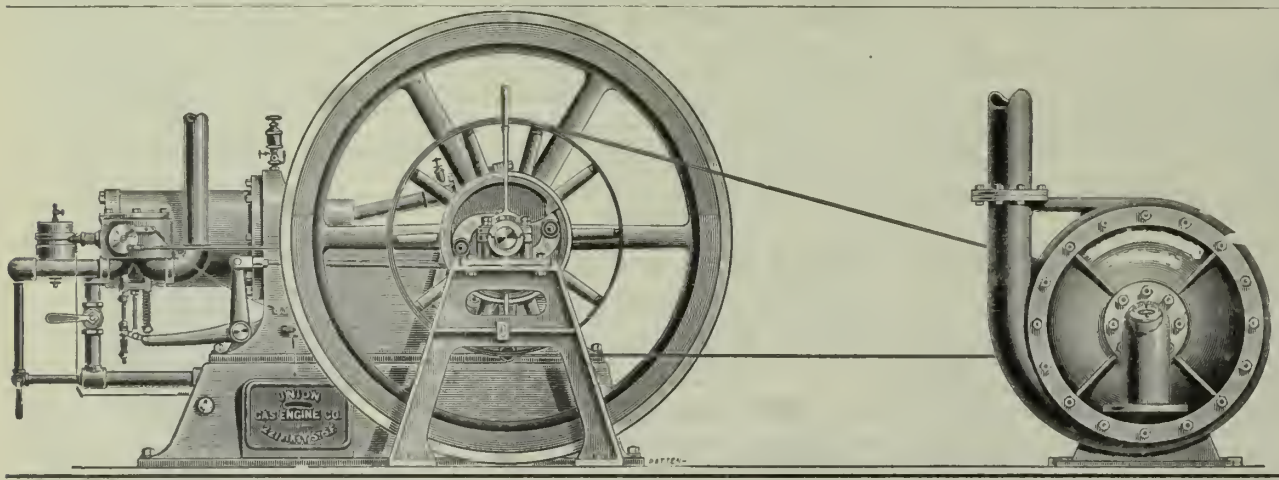

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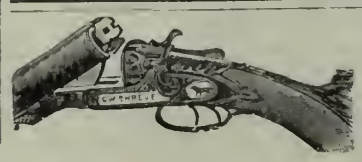

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THE PACIFIC RURAL PRESS AND CALIFORNIA FRUIT BULLETIN.

Vol. LII. No. 24. SAN FRANCISCO, SATURDAY, DECEMBER 12, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.

This Paper not from Library.

A Fine Southdown Trio.

We hope that there are many Californians who are not "ashamed to look a sheep in the face," as the farmer was a few years ago after he had voted for a governmental policy which has well nigh ruined our wool interests. Those who committed the offense against the sheep some years ago have probably done all they could on recent occasions to atone for it, and to them a sight of some good animals will be welcome. A few weeks ago we announced our desire to assist in every way possible in the rehabilitating the flock industry in California, and to bring it upon a higher plane than it has ever before attained. Evidently much of the old style of herding has passed away as lands have been taken up and enclosed, and our sheep future will be in the line of sheep husbandry rather than sheep herding or ranging. One factor of the success of the new method will be the possession of better sheep—sheep for special purposes, so that the very best returns in wool or carcass, or combinations of the two which suit the demands, may be had in return for the food and care, both of which must be better than formerly. To this end we shall illustrate special forms of sheep as characteristic of the different breeds. We present herewith a trio of typical Southdown sheep, representatives of one of the best flocks of central Illinois, a section of our country that has been long noted for the intelligence and progressiveness of its live stock breeders.

TYPICAL SOUTHDOWNS—BARON THETWOOD, BELLE OF BASKYMEAD AND PENELOPE IV.

Recently mutton instead of wool has become a leading purpose in sheep raising, and the changing of the wool-bearing to the mutton-producing kind is a matter which commands the attention of many. With the hardy sort of sheep that bear flocking in large numbers, the introduction of the blood of other breeds usually requires a complete change in the management of the flock, because the sheep used for crossing are not always so hardy, and will not bear the large flocking and the hardships that Merinos and natives will stand. It is claimed that the Southdown will more nearly fill the desired requirements for muttonizing these wool-producing flocks than any other.

They are claimed to be as hardy as the Merinos, and more so than other purely-bred sheep. Mr. John Walker, in his book on "Sheep and Lambs," in speaking of the Southdowns, says: "These hardy sheep will subsist and even fatten upon the scant herbage, where larger breeds would be unable to exist." Mr. Henry Stuart, in his "Shepherd's Manual," says: "They are able to accommodate themselves to any district or styles of farming where moderately good pasturage is to be had, and are well suited as gleaners upon arable soil."

They are less liable to disease than any other breed, including the Merino. Mr. Youatt, the well-known sheep authority, says: "There are no sheep more healthy than the Southdowns. They seldom suffer from hydatids on the brain, nor are they so much exposed to rot."

They are held to be superior in the quality of their mutton to all other breeds. Mr. Youatt says the Southdowns are reckoned the best mutton sheep in the world.

Southdowns have been bred in purity longer than any other of our pure breeds of sheep, and they will more certainly and quickly impress their qualities on other breeds. Mr. John Walker says they are supposed to be the oldest breed of sheep in England. Southdown leaders claim that all other breeds of sheep will be benefitted as to quality of mutton by the introduction of Southdown blood and that the introduction of any other blood into the Southdown sheep is hurtful to its mutton qualities. Mr. Charles Scott, in his "Practice of Sheep Farming," says: "Of the Down breeds, the Southdown, a model of symmetry, is the type and original. It has been extensively used in crossing and improving other breeds."

Besides the benefits of improving the mutton qualities of the fine wool-bearing sheep by the introduction of Southdown blood, there is the additional advantage in this cross that the wool of the Southdown being next in fineness, there is less difference in the quality of the wool produced by this cross than by the introduction of any other blood, and the flock may be returned to the wool-producing sort, if desired, more quickly and satisfactorily. Mr. Powers, in his book "The American Merino," says: "There is only one genuine mutton sheep worth considering, and that is the Southdown. A cross between the Merino and the Southdown produces admirable results, and is the nearest approach that will ever be made to an animal yielding at the same time the best staple of and the finest quality of mutton."

For the opportunity to show this group of Southdowns we are endebted to John G. Springer, secretary of the American Southdown Breeders' Association and the animals are fully discussed in Vol. I of the American Southdown Record published by that Association. We are not aware whether our local breeders have affiliated with the association or not, but we hope that, as our sheep interests advance, not only this, but all associations in the interest of popular breeds, will be found in California.

The extension of our beet-sugar interests will make available a large amount of good feed for sheep in the form of beet leaves and tops and the pulp and press cakes from the factories. The beet grower should look into the sheep business as an adjunct, for sheep are unquestionably one of the most available means for turning these waste products into profitable products and at the same time yield valuable fertilizer, which can be well used in the course of a rotation, if not for direct application to the beet crop. Where one does not care to go into dairying because of investment and labor required, a small flock of sheep is just to his hand; and where such means are employed to return fertility to the soil, the beet yield can be easily kept up indefinitely. It is a good way to grow meat at home, and the surplus can be sold well.

The California Wine Makers' Corporation appeals to all owners of wine to act with them in preventing cuts in the price of wine which, owing to the short crop, seems altogether unnecessary. The present membership of the organization is not enough to enable it to control the situation and nothing but complete co-operation will enable it to maintain the price of 20 cents per gallon for the wine of this year. The seat of war upon value is at present at New Orleans.

Farmers' Institutes by the University last week at Gilroy, Hollister and San Luis Obispo manifested much interest though the attendance was not large, owing to the busy season with beet harvesting and grain sowing. At Santa Rosa a very large and enthusiastic two-day Institute was held. At all these places there was outspoken favor for the continuation of this work by the University.

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ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, December 12, 1896.

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The Week.

Weather and Crops.

There has been another week of fine weather from a tourist's point of view, but the prevalence of a drying wind has not improved the agricultural aspect of the period. The greatest activity has prevailed wherever there is moisture enough to plow to turn and seed as much land as possible, and farmers have had little time to spare for attending the Institutes which are now being held. The rainfall is, however, much ahead of last year's figures to the same date, and the increased price of grain invites large seeding.

The following data for the week ending 5 A. M. Wednesday, Dec. 9, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	.52	14.33	10.38	10.62	60	38
Red Bluff	.01	5.62	4.70	6.88	62	36
Sacramento*	T	4.62	3.49	4.33	59	33
San Francisco	....	6.76	2.87	5.60	62	45
Fresno	....	3.02	.41	1.66	62	34
San Luis Obispo	....	4.69	3.32	....	78	40
Los Angeles	....	2.99	1.03	5.82	84	42
San Diego	....	2.07	1.31	2.08	78	48
Yuma	....	1.10	.32	1.33	78	44

* Up to 5 P. M. Dec. 8: furnished by J. A. Barwick

Appeal of Wool Men.

The California Wool Protective Association has adopted the following memorial to Congress:

To the Senators and Representatives of the State of California in Congress: At a meeting of the California Wool Protective Association, held on the 17th ult., resolutions were passed favoring the immediate adoption of the emergency tariff, known also as the Dingley bill, now pending in the Senate; therefore,

WHEREAS, The entire wool industry of the United States has been languishing and in a paralyzed condition for the past four years; and

WHEREAS, In the election of Mr. McKinley the country at large will anticipate the passage of a protective tariff under his administration, large quantities of wool and woolen goods will be immediately imported into this country, flooding all our markets, and thus delaying the prosperity of the wool and woolen industry; therefore, be it

Resolved, That our Senators from this State be urged to see the necessity for the immediate passage of the emergency or Dingley bill, as a temporary measure for revenue necessary for the Government needs, and partially to prevent the above mentioned importations, and thus in a measure to foster and protect the wool and woolen industry of this country and prevent an indefinite continuance of the hardships and losses sustained by those engaged in this line of business.

For Secretary of Agriculture.

At the Horticulture Convention at Sacramento last week there was an almost unanimous expression, formal and informal, in support of Mr. Ellwood Cooper of Santa Barbara for the Secretaryship of Agriculture under the new administration. A resolution to that effect was passed without a single dissenting vote. In thanking the convention for its action in the matter Mr. Cooper said that it was no part of his plan to make a "fight" for the place but that if it was tendered him he would endeavor to do his duty and would not forget the interests of California.

Another candidate for the secretaryship who is likely to find a very considerable and hearty support in California is Hon. J. H. Brigham of Ohio, Master of the National Grange. At its last meeting Tulare Grange led off with a formal resolution in favor of his candidacy.

A Hopeful View.

Gen. Chipman's discussion of the question, "Has the Limit of Our Fruit Business Been Reached?" printed on another page, is a timely and valuable contribution to the industrial literature of California. We have had a good deal of general talk on this subject—optimistic, pessimistic and indefinite—but this is the first serious effort to assemble the hard facts and figures in a judicial spirit, and to draw from them a set of strictly business conclusions. The result is overwhelming in its support of the claim that the limit of profitable tree planting has not been reached, nor likely to be for many years to come.

In spite of the fact that great areas have been planted, there has been no overwhelming increase in the annual output. During the past five years our shipments of fruits (fresh, dried and citrus) by rail and sea have been as follows:

Year.	*Ten-ton Carloads.*
1891	18,692.9
1892	20,495.7
1893	27,329.2
1894	31,274.5
1895	33,547

If these figures demonstrate that the increase in output has been much less rapid than has been supposed, there are many good reasons for the fact. Many orchards planted a few years back have, after a few seasons of profitable bearing, become exhausted and have pinched out. Many other plantings have been made of unproductive varieties or upon unsuitable soils and have not developed according to calculation; a lower range of prices during the past three seasons has discouraged many speculative orchard owners—especially in unwisely chosen locations—and they have allowed their plantings to choke with weeds and go to ruin. The sum of it all is that the figures of annual output, instead of doubling and tripling and quadrupling, have made a progress so slow that it has not materially affected the conditions under which our fruits are sold, and there is every reason to believe that in this respect the future will be like the past. In five years from now not half the trees which were productive five years ago will be in existence, and not more than half the new orchards now coming on will justify the hopes with which they are now regarded.

In the meantime the fruit-eating habit steadily grows. According to the statistics of the U. S. Treasury Department, the per capita consumption of fruits in the United States has increased from 5.16 pounds in 1890 to 9.6 pounds in 1895—and this in the face of four seasons of unprecedented hard times, especially among the class which is our best customer. It has been a time of low prices, but the fruit has been consumed and the habit of eating it has become fixed with multitudes, who might never have been attracted to it if old-time prices had been maintained. Furthermore, new outlets for our fruit have been opened up. Germany has become a large consumer—so large that the business of importing has just now been established direct; France, a new buyer, is more or less in the bidding; and England, always a large buyer of canned goods, is now demanding our fresh fruits and is willing to pay prices which justify the heavy risks of long transportation. This foreign demand shows every sign of great future development, and the prospect of better times in the United States is a fact of the most hopeful promise.

Gen. Chipman well says the real question now before the fruit interest is a commercial one. How shall we put our fruits into the hands of the millions who would be the better off for having them at prices which they can afford to pay? It is a serious question. Our present method of distribution is too limited and too costly. Some better way must be found.

From an Independent Standpoint.

Nobody expects much from the session of Congress which began on Monday. It has only a few weeks of life, and all large schemes of legislation will be held over for the new Congress. The President's message was the only thing worthy of note in Monday's proceeding, and even that was only a perfunctory interest. A President whose successor has been elected is a declining sun, and nobody gives much heed to what he thinks or says. All eyes are now turned, not upon the White House, but upon Canton, Ohio; and this fact must have been in Mr. Cleveland's mind when he penned the long and somewhat dreary pages of his last general official utterance to the country.

The subject of foremost popular interest is the Cuban war, and to it Mr. Cleveland has given most attention. The insurgents, he thinks, have not yet made good their claim to be regarded as an independent State. Their so-called government exists only on paper, and there is not even a pretense of maintaining civil authority. The United States, he believes, should defer recognition of Cuban independence until the sovereignty of Spain in Cuba shall be manifestly extinct. With reference to the Venezuelan settlement, the President is thoroughly dignified and the message is free from any cheap effort at national or personal glorification. The terms of the settlement he characterizes as eminently fair and just. "Negotiations for a treaty," he adds, "of general arbitration for all differences between Great Britain and the United States are far advanced and promise to reach a successful conclusion."

With respect to the national finances the President takes pains to make it clear that he does not regard his policy as in any way responsible for the hardships under which the treasury has labored during the past two years. A combination of hard times, of extravagance imposed by the acts of former administrations and the inherent vice of a bad currency system, he believes to be at the bottom of all the treasury troubles. The day of sensible and sound financial method, he says, will not dawn upon us till the Government confines its monetary operations to the simple business of receiving its revenues and paying them out for the public benefit. I am convinced, he says, that "we can have no assured financial peace and safety until the Government currency obligations upon which gold may be demanded from the treasuay are withdrawn from circulation and canceled. This might be done, as has been heretofore recommended, by their exchange for long-term bonds bearing a low rate of interest or by their redemption with the proceeds of such bonds." Of the silver question the President makes no mention whatever.

On the tariff question the President says little except to defend the Wilson-Gorman law, which at the time of its enactment he condemned in unmeasured terms and allowed to become a law without his signature. "It must be conceded," he says, "that this law has opened the way to a freer and greater exchange of commodities between us and other countries and thus furnished a wider market for our products and manufacturing." And he further declares his belief that "our present tariff law, if allowed a fair opportunity, will in the near future yield a revenue which, with reasonably economical expenditures, will overcome all deficiencies." With reference to the large sums due the Government from the Pacific railroads, the President makes no suggestion further than to say that unless Congress shall otherwise direct, it will be the duty of the Executive to "take such action" as will "save the Government from the loss threatened by further inaction." Just what this means we are not able to say, but it clearly does not indicate that Mr. Huntington's refunding scheme is to have any help from the White House while Mr. Cleveland is master there.

The above summary covers the leading features of the message; but by no means the whole of it. In it the President has made a general roundup of national affairs, making some reference to almost every department of public interest. His remarks especially relative to agriculture are given in full in another column. In concluding, the President appeals to Congress for "rigid economy in the expend-

iture of the money it holds in trust for the people. The way to perplexing extravagance is easy, but a return to frugality is difficult. When, however, it is considered that those who can bear the burdens of taxation have no guaranty of honest care save in the fidelity of their public servants, the duty of all possible retrenchment is plainly manifest."

It is clear from the President's attitude toward the tariff that no help need be expected from him in the matter of the Dingley bill or any other looking to a temporary advance in the tariff schedules, with a view to bringing up the national revenues to a level with the national expenditures. Under the administration of a President who believes the existing tariff law will meet all requirements, if it be "allowed a fair opportunity," there will be no change; and those statesmen who are working over plans for immediate temporary relief may as well postpone their efforts until Mr. Cleveland turns his back upon the White House.

Since it will be impossible to pass any tariff measure until McKinley comes into office, it is almost certain that an extra session of Congress will be convened immediately after the 4th of March; and its duty will be to provide, through tariff legislation, a sufficient revenue to meet the cost of government and a reasonable protection to industry and production. This is what the people voted for, and the new government ought to act with the least delay possible. During the long period when the Wilson bill was pending business interests were utterly demoralized by uncertainty and suspense. There must be no repetition of this costly fooling. It ought not to take more than sixty days to organize, discuss and enact a new tariff law; and there is no reason for any delay about it. Every day that it is put off makes another day of postponement of the "normal times" for which the country has so long been waiting. Until recently it has been feared that the effort to put through a more efficient tariff law would be blocked by the "silver senators;" but recent events discredit that notion. Senator Jones of Nevada has publicly declared that while he no longer considers himself a Republican he will stand by his old party associates for protection, and there are intimations that Cannon of Utah, Teller of Colorado and DuBois of Idaho —in spite of their withdrawal from party affiliation— will do the same. The House, of course, will be all but unanimous for the protective idea; and it does not now look as if there would be a day's delay in the enacting of a new law after it shall have been satisfactorily arranged by the committees.

We distinctly do not like Chairman Hanna's plan to establish the Republican National Committee in permanent headquarters at Washington. It would, of course, be the signal for all other parties to follow suit; and, as a result, there would be introduced a new political element into the life of the capital. The immediate effect would be an increase of party spirit in its relations to legislation and administration; and it is easily conceivable that the end would be a practical transfer of the real powers of government from the men chosen by the people to their several party managers. Suppose Mr. Hanna, in permanent active service as Chairman of the National Committee, established officially in party headquarters at Washington! Does anybody doubt that he would rule his party caucus and through it be the paramount factor in shaping the policies of the Administration and of Congress? Is it to be questioned that his influence and authority, as related to the conduct of the Government, would far outweigh that of any other man in Washington, excepting, possibly, the President himself? And is it proper or wise that such powers should be holden by a mere party manager?

We have had enough experience with the party boss in city and State affairs to know that his administration involves the degradation of politics and the utter corruption of Government. Up to this time our national politics have only been incidentally affected by this system. But if Mr. Hanna's project is carried into effect, if the Republicans—and all the other parties—set up permanent offices at Washington, and maintain a corps of party generals in active service, we shall, it is to be feared, soon see a situation in which the nominal representatives of the people will be only a corps of well-drilled dummies under the dominance of party tacticians. If this seems extravagant, we refer the reader to the State politics of this and many other American communities. Wherever the party boss gets a foothold, there legitimate and honest representative government dies. The only road to reform lies through political revolution, and even then the change is too often but a swap of one gross tyranny for another. Let our statesmen beware of Mr. Hanna's proposition, for there is in it the germ of unspeakable mischief. The legitimate function of campaign leadership is done when the campaign is ended; and there is no need of permanent headquarters at Washington or anywhere else. We have quite enough politics at Washington, as matters now stand.

It is not creditable to California that, alone of the larger cities of the United States (with the possible exception of New Orleans), San Francisco is the place where prize fights, with all their gross and criminal accompaniments, can be arranged and "pulled off" without hindrance or even protest on the part of the authorities. It is even less creditable that a hall owned by a public library association, and administered in its interest and by its officers, can be hired for such uses. While these facts are notorious, it is not surprising that California has a bad name abroad. Anybody who has any real knowledge of California knows that the moral standards and practices of the mass of our people are as sound and wholesome as those of any other country; but it is not to be denied that many things are permitted, and even invited, here which would not be tolerated in other communities. So long as we give prize fighters leave to practice their brutal "sport," so long as we support a vulgar and licentious newspaper press, we must expect California to be regarded, if not indeed as the "tenderloin of America," at least as a country in which moral ideas and decent people hold a subordinate place.

Pith of the Week's News.

Mrs. M. D. Cochran of Marysville died last week from the effects of poison oak.

Judge Waymire is going to make an active fight for a place in McKinley's cabinet.

The net deficit in the postal revenues during the last fiscal year was upwards of $8,000,000.

J. R. Chace, proprietor of the Ocean House at Santa Cruz, has failed and the hotel has been closed.

Sarah C. Mink, a former national commander of the Woman's Relief Corps, died at Watertown, N. Y., last week.

At Washington on Tuesday Chairman Hanna said to a reporter: "I have nothing to do with the selection of McKinley's cabinet."

W. D. Hoard, editor of *Hoard's Dairyman* and ex-Governor of Wisconsin, is being urged for Secretary of Agriculture in McKinley's cabinet.

Chairman Powers of the House Committee on Pacific Railroads, expresses the belief that the refunding bill will pass the present session of Congress.

There has been another continuation in the Durrant case. It looks as if the murderer would live to a green old age and die at last comfortably in his bed.

London, December 7.—The *Times*, in an article reviewing the official returns, finds that the estimated wheat crop of Great Britain is 20,000,000 bushels above that of 1895.

London, December 7.—The *Chronicle* says it hears that the independent representatives anticipate that, in spite of the rains, the famine will be far the worst ever seen in India.

Dr. T. DeWitt Talmage, the great pulpit sensationalist, whose wife died something more than a year ago, is to be married to a Miss Mangam, aged 30. Dr. Talmage's age is 64.

Again—and for the five hundredth time—it is reported that the Turk is to be coerced into humane treatment of his Christian subjects. This time, it is said, England, France and Russia have agreed to act together.

London, December 3.—A *Times* dispatch from Melbourne says that on account of the crop deficiency Australia requires 100,000 tons of wheat and flour from America, and that half of that quantity has already been ordered.

A letter from Honolulu says that annexation never ran so strong as at this time. The hopes of the islanders are fixed on the McKinley administration, and they are making ready to urge their case at the first opportunity.

The latest reports from Cuba record the death of Antonio Maceo, the insurgent leader, in an engagement with the Spaniards. His death, so soon following that of Gen. Gomez, is likely to be an embarrassment to the patriotic cause; but there are other able chiefs in the Cuban army, and it is not believed the rebellion will suffer for want of leadership.

The "silver Senators"—Teller of Colorado, Dubois of Idaho, Cannon of Utah, Mantle of Monta, Pettigrew of South Dakota, and Squire of Washington—have withdrawn from the Republican Senatorial caucus, and their future party affiliations are doubtful. They were all elected as protectionists, and it is not believed that, when it comes to a test, they will stand in opposition to a reform of the tariff.

It is impossible to make head or tale out of the news from Cuba. It comes in irregular ways from unknown sources and bears no stamp of genuineness. One day the Cubans and next the Spaniards are reported to have won important battles; but there is no assurance of anything. The only fact clearly to be made out of all the confusion is that the war goes on vigorously on both sides and that the Cubans are no less determined and hopeful than at any former time. They are no doubt undergoing great hardships, but they are not likely to quit until the victory is won.

In the Republican Senatorial caucus at Washington on Tuesday, Senator Wolcott of Colorado—who supported McKinley during the campaign—introduced the following resolution: "*Resolved*, That a special committee of five members of this caucus be appointed to recommend some plan whereby legislation may be bad in this session of Congress looking to an international conference with the leading nations of the world on the promotion of bimetallism." No action on the proposition was taken.

President Cleveland on Agricultural Affairs.

Following is that part of the President's annual message (delivered on Monday of this week) relative to agricultural affairs:

The Department of Agriculture is so intimately related to the welfare of our people and the prosperity of our nation that it should constantly receive the care and encouragement of the Government.

From small beginnings it has grown to be the center of agricultural intelligence and the source of aid and encouragement to agricultural efforts. Large sums of money are annually appropriated for the maintenance of this department, and it must be confessed that the legislation relating to it has not always been directly in the interest of practical farming or properly guarded against waste and extravagance. So far, however, the public money has been appropriated fairly and sensibly to help those who actually till the soil. No expenditure has been more profitably made or more generally approved by the people.

Under the present management of the department its usefulness has been enhanced in every direction and at the same time strict economy enforced to the utmost extent permitted by Congressional action. From the report of the Secretary it appears that through careful and prudent financial management he has annually saved a large sum from his appropriations, aggregating during his incumbency and up to the close of the fiscal year nearly one-fifth of the entire amount appropriated. These results have been accomplished by a conscientious study of the real needs of the farmer and such regard for economy as the genuine farmer ought to appreciate, supplemented by a rigid adherence to civil service methods in the department, which should be conducted in the interest of agriculture instead of partisan politics. The Secretary reports that the value of our exports of farm products during the last fiscal year amounted to $570,000,000—an increase of $17,000,000 over those of the year immediately preceding.

This statement is not the less welcome because of the fact that, notwithstanding such increase, the proportion of exported agricultural products to our total exports of all descriptions fell off during the year. The benefits of an increase in agricultural exports being assured, the decrease in its proportion to our total exports is the more gratifying when we consider that it is owing to the fact that such total exports for the year increased more than $75,000,000.

Exports of Farm Products.—The large and increasing exportation of our agricultural products suggests the great usefulness of the organization lately established in the department for the purpose of giving to those engaged in farming pursuits reliable information concerning the condition, needs and advantages of different foreign markets. Inasmuch as the success of the farmer depends upon the advantageous sale of his products, and inasmuch as foreign markets must largely be the destination of such products, it is quite apparent that a knowledge of the conditions and wants that affect those markets ought to result in sowing more intelligently and reaping with a better promise of profit.

Such information points out the way to a prudent foresight in the selection and cultivation of crops, and to a release from the bondage of unreasoning monotony of production, a glutted and depressed market and constantly recurring unprofitable toil. In my opinion, the gratuitous distribution of seeds by the department, as at present conducted, ought to be discontinued. No one can read the statement of the Secretary on this subject and doubt the extravagance and questionable results of this practice. The professed friends of the farmer, and certainly the farmers themselves, are naturally expected to be willing to rid a department devoted to the promotion of farming interests of a feature which tends so much to its discredit.

The Weather Bureau, now attached to the Department of Agriculture, has continued to extend its sphere of usefulness, and by an uninterrupted improvement in the accuracy of its forecasts has greatly increased its efficiency as an aid and protection to all whose occupations are related to weather conditions.

Omitting further reference to the operations of the department, I commend the Secretary's report and the suggestions it contains to the careful consideration of the Congress.

Gleanings.

Sonoma county will contribute an exhibit for the great Hamburg fruit fair.

The woolen mills at Albany, Oregon, are to be started at once, with the aid of San Francisco capital.

Nine cows belonging to the Presidio military establishment, San Francisco, have been slaughtered, due to the tuberculin test.

All the De Turk wines—about 300,000 gallons—have been sold by the administrators to the Gundlach Co. The price is reserved, but it is understood to be full up to the market.

Twenty-one carloads of dried fruit have been shipped this season direct from Suisun. The shipper, Mr. E. Leuhning appears to be well satisfied with his season's work and is preparing to follow up the business by heavy shipments next season.

A masked body of men visited the Fay packing-house at Casa Blanca, Riverside, last week at night and drove away a number of Chinese employed there. Notices were posted on the doors to the effect that the house would be fired if any Chinamen were employed.

Tacoma, Wash., December 7.—One hundred thousand prune trees were killed in Thurston county by frost last week. [Thurston county is in the Puget sound region, and the climate is similar to that which prevails through the western regions of Washington and Oregon.]

Tacoma, December 8.—It is announced to-day that the Northern Pacific and Great Northern Railways have made a $25 rate for settlers and members of their families from St. Paul to Pacific coast points. This is equivalent to a reduction of one-half of the current first-class rate.

Following is the standard for grading this season's oranges, adopted by the principal associations and shipping firms: "The sizes of the fruit shall run from 96s to 216s, inclusive, with the following exceptions: Any excess of 96s and 112s above 15 per cent, a discount of 50 cents per box shall be allowed, and 80s, 64s and 250s shall be known as 'off sizes,' and a discount of 50 cents on them per box be allowed from price quoted for regular sizes." This regulation went into effect Dec. 1st.

The Horticultural Convention.

The twentieth annual convention of the fruit growers of California, held at Sacramento last week, was not so well attended as these gatherings usually are. Various explanations are given, but the fact remains that during the greater part of the session there were not more than 100 or 125 persons in the hall. In other respects it was a good meeting. An admirable programme had been arranged, and we do not recall any recent convention where the average excellence of the formal papers has been higher. Owing to the comparatively light attendance, the discussions were rather less complete than usual. The principal work of the convention was the drafting and adoption of a memorial to Congress, praying for higher tariff rates on fruit and vineyard products, which appears on another page.

The record of the convention in last week's RURAL closed on Tuesday. Wednesday was strictly a business day, the whole time being given to the reading and discussion of papers and addresses. Mr. J. A. Filcher spoke on the general subject of opening new markets. Mr. Leonard Coates gave a thoughtful paper on the marketing of our fruits abroad. Mr. Righter of Campbell talked on transportation and freight rates. Mr. H. P. Stabler dealt with the question of advertising our fruit product. Mr. Gester of Newcastle read a paper on transportation. Mr. Adams read a paper on the subject of a free market at San Francisco. Mr. Barwick gave an address on the Nicaraguan canal. After much discussion the memorial to Congress on the subject of tariff rates (printed on another page) was adopted. In the evening many citizens of Sacramento came to pay their respects to the assembled fruit growers and there followed a "social session," delightful in its jollity and goodfellowship.

The most notable feature of Thursday's session was the adoption of a resolution offered by ex-Senator William Johnston, recommending the appointment of Mr. Elwood Cooper as Secretary of Agriculture in the McKinley cabinet. A resolution was adopted praying the State Legislature to appropriate the sum of $5000 per annum to assist the Board of Horticulture to carry out its work. An essay by Quarantine Officer Craw, on "The Peach Tree Borer," was read by the secretary. W. Egbert Smith of Napa read a paper on "The Root Knot." Mr. Erhorn of Santa Clara read a paper on "Leaf-eating Caterpillers, and Methods of Exterminating Them." Prof. Woodbridge followed with a talk on "Plant Foods." Jonathan Begg of San Diego addressed the convention on "The Icing of Fruit Cars." James E. Gordon of San Jose dealt with prune culture from a commercial standpoint. Major Berry spoke of thinning, grading and gathering fruit. Mr. Rowley dealt with the fruit industry from a commercial standpoint. Prof. Hilgard gave a discussion of the irrigation question. Mrs. Elwood Cooper dealt with food adulteration, and the day closed with an address on "The Eucalyptus Tree," by Prof. Woodbridge.

Friday, the last day of the convention, was enlivened by something very like a row, in which Messrs. Stephens of Sacramento, Major Weinstock of Sacramento and Mr. Block of Santa Clara were the chief actors. Mr. Stephens, who was the aggressor, opened the ball by declaring that the "Fruit Growers and Shippers' Association had so manipulated things as to crush out independent shippers." Now the Fruit Growers and Shippers' Association is the child of a former horticultural convention created to represent the policy of the growers; and Mr. Stephens' remarks had somewhat the flavor of heresy. Mr. Block, a director in the association, took Mr. Stephens' charge as reflecting personally upon himself and replied with a good deal of spirit. He gave a very clear and (to most of those present) sufficient explanation of the special acts of which Stephens complained. Mr. Fowler of Fresno supported Mr. Block's side and Mr. Runyon stood by Stephens. He made no personal charges, he said, but he believed Stephens had spoken from the basis of a real grievance. By this time Major Weinstock—the leading spirit in the Growers and Shippers' Association—had arrived, and he and Stephens had it hot and heavy until the Chair called the latter to order for indecorous language. But Mr. Stephens was too much wrought up to care whether school kept or not; and in spite of any sort of protest he talked until he had his say fully out. The whole proceeding was very unpleasant, and it was far from creditable to the fruit growers of California.

A resolution was adopted providing for an exhibit of California fruits at the Hamburg Horticultural Exhibition, which opens next spring, and requesting the Supervisors of each county in the State to make the collection of fruit. Resolutions were also adopted requesting fruit growers and shippers of the State to ship first-class fruit only; requesting the Regents of the State University to open the forestry stations to students and botanists not students of the University; calling on Congress to construct the Nicaragua canal; asking the State Legislature to pass a pure food law and indorsing to the Legislature the efforts of the Highway Commissioners to make good roads. San Diego, Los Angeles, Sacramento, Anderson, in Shasta county, and San Jose were nominated as places for holding the next Fruit Growers' Convention. A motion was made that two conventions be held, one in the northern and one in the southern part of the State; one in the spring and one in the fall, and that the whole matter be left with the State Board of Horticulture. The motion prevailed, with one fixing Shasta county as the place for the northern convention.

Present Status of Co-operation Among Fruit Growers.

The committee on co-operation—through its chairman, R. D. Stephens—made the following report to the Horticultural Convention at Sacramento last week.

Your committee on co-operation beg leave to report that the manifest indisposition on the part of some growers to act together and the utter inability of may others who, because of the low prices obtained for their products through the system of consigning, have become financially embarrassed, and to such a degree that they have not only been forced to mortgage their real estate, but in addition thereto have been forced to give crop mortgages—the bane of the fruit grower, so far as obtaining fair and remunerative prices is concerned—to commission men, who demanded and arrogated to themselves absolute control in disposing of and marketing these products in such a manner and way as would best promote their own interests, to do which the favorite plan has been to utilize the fruit thus controlled to glut and demoralize the markets patronized by the independent grower and shipper.

In consideration of the facts above stated, your committee feels that any attempt at present to form a perfect and compact central or State organization that would properly reflect the sentiments of the great mass of fruit growers, the workings of which would protect and subserve their interest, would prove a failure and would, as ever in the past, be building up a power that would be utilized by a few to not only absorb the value of the products of the grower, but also much of the capital invested in the fruit producing interests of the State.

Your committee believe, however, that much good might accrue through local co-operation. If all the growers of a locality cannot be induced to act together because of the existence of crop mortgages or orther reasons, let those who are still able to control their property take prompt action by declaring their independence and come to some understanding and agreement to ship their products and sell them through their own agents who will make returns directly to them and also be directly responsible to them.

As evidence of the correctness of this plan, local co-operation, we refer not only to the success achieved through the local fruit growers' organization in Santa Clara Valley and other localities, but to the entire State. They have done much to gaain and maintain living prices for fruit products. We therefore earnestly urge fruit growers to organize similar organizations throughout the State and thus assist in promoting and protecting the fruit growing interests of California.

R. D. STEPHENS,
B. F. WALTON,
F. M. RIGHTER,
C. J. BERRY.

Destructive Frosts in the North.

A Tacoma dispatch of the 8th inst. is as follows:

The greatest damage by the recent cold weather is just now coming to light. Heavy frosts have caused the total destruction of a large number of orchards, both on Puget sound and across the Cascade mountains. Prune, peach and apple trees have been destroyed by the thousand. The apple trees are thought to be damaged the least.

Editor Scobey of the *Olympian*, published at Olympia, brought the news to-day that practically all the Italian prune trees in Thurston county were frozen by the severe weather of the later part of November, when for a week the mercury ranged from 10° to 32° above zero. He estimated the loss in Thurston county alone at 100,000 trees, many of them of four, five and six years' growth, and some bearing this year for the first time. Mr. Scobey says he has nodoubt that when the trees are examined in all parts of western Washington, where the weather was extremely cold, they will be found lifeless.

At Olympia the mercury dropped to a little below zero. At Walla Walla and in Whitman county it went down to 20° below zero, killing thousands of trees. As cold weather as that is experienced every year, but not so early in the season. The fall has been unusually pleasant and warm, with the result that much sap was still left in the bodies of the trees. When the weather suddenly changed from summer to extreme winter it froze the sap.

Reports from the Yakima and Wenatchee valleys, further north, are to the same effect. Peach and Italian prune trees suffered the most there. Not since 1881 has such severe weather been experienced in the Northwest in November. The fruit growers are badly discouraged, but as rapidly as possible will replenish their orchards with new trees.

Fruit raising has been counted one of the prospective great industries of the State on account of the splendid product raised here and the fine market obtained in the East. During the past season over 600 carloads of prunes and other green fruit were shipped from Walla Walla alone. Commencing six or seven years ago, a large proportion of new settlers purchased fruit land either along Puget sound or the valleys of eastern Washington. Both the soil and the climate of the Puget sound country have been pronounced by experts to be particularly favorable to the growth of prunes, and hundreds have engaged in the business. Many growers expected to get their first full crop next year and were preparing to erect dryers. Now they must wait six or seven years more. The damage is found to be greatest on the uplands, away from the water.

It is understood that orchards in Oregon sustained similar though perhaps less extensive damage. Because of home production importations of California fruit have been growing smaller for a number of years, but they will now have to be depended upon to again supply the Northwestern market.

THIS WEEK University Farmers' Institutes are being held at Selma and Hanford. Next week meetings will be held at Goleta Monday and Tuesday, Carpinteria Wednesday and Thursday, and Fillmore Friday and Saturday.

HORTICULTURE.

Has the Limit of the California Fruit Business Been Reached?

Gen. Chipman Thinks Not—A Masterly Summary of the Situation.

"Have We Reached the Limit of Profitable Fruit Growing in California?" This was the theme of a paper read last week before the State Horticultural Convention at Sacramento by Gen. N. P. Chipman of Red Bluff, from which we make liberal extracts below:

A Question of Large Importance.—The question is of great importance and deeply concerns the welfare of our State. If as fruit growers we declare that no more fruit trees can be profitably planted, we shall strike the severest blow that can be given to our future increase of population; we shall practically surrender the advantages God has bestowed upon this blessed land in its matchless climate; we shall discourage the subdivision of large tracts of land which have hitherto been conceded to be a curse to the State; we shall dedicate our soil to the production of the cereals, the surplus of which must seek foreign markets in competition with all the world and by the longest haul on the globe; and we shall reinaugurate the era of migratory and tramp labor and the dreary waste of limitless, unpeopled wheat fields, sheep walks and cattle ranges. Before contributing to such a calamity I would seek most earnestly the truth, and I would reach no unfavorable conclusion except upon the most convincing evidence. But, dire as might be the results that would flow from an embargo upon our further extension of fruit growing, as honest men we should not hesitate to speak the truth, even if it be true that disaster must come from an increase of our orchards. I will state my conclusion at the outset of the argument. I stand here to-day to espouse the cause of further fruit tree planting and to declare that we have not reached, nor are we likely soon to reach, the limit of profitable fruit growing in California. Four years ago I unearthed a prophecy of Horace Greeley, uttered in 1859 while he was sojourning in the beautiful Santa Clara valley. He prophesied that fruit growing was destined to be the ultimate glory of California. I stand here to show the truth of this forecast of the philosopher, sage and prophet.

Quantity and Value of the California Fruit Trade.—Let us see what we have been doing for six years—1890 to 1895, inclusive. For these years I have gathered annually, from official and original sources, the shipments of fruit from this State, and have embodied them in annual reports to the State Board of Trade. I also gathered the facts as to wine, brandy and vegetables, but let these pass as not germain to the question. The following comparative table for these years will show the fruit shipments:

GENERAL SUMMARY AND COMPARATIVE TABLE OF SHIPMENTS BY RAIL AND BY SEA OF FRUITS, WINE AND BRANDY, AND VEGETABLES FOR SIX CONSECUTIVE YEARS.

(In Tons of 2000 Pounds.)

Kinds.	1890.	1891.	1892.	1893.	1894.	1895.
Green deciduous fruits	31,042.	48,344.5	55,844.3	79,952.5	80,787.4	66,254.8
Citrus fruits	34,260.6	46,931.4	34,931.4	80,657.	68,964.2	115,825.5
Dried fruits	32,297.5	32,515.1	39,867.9	41,238.4	51,255.4	61,308.4
Raisins	30,560.1	22,477.4	26,556.6	37,394.	46,913.2	46,365.3
Nuts	767.1	1,311.7	2,007.6	1,792.5	3,964.5	3,234.7
Canned fruits	40,060.9	27,783.3	38,777.9	27,840.7	52,662.6	31,395.9
Total carloads fruit by rail	16,195.7	17,738.9	18,741.3	26,897.5	30,349.7	32,432.2
Total carloads fruit by sea	954.	1,754.5	431.7	924.9	1,114.8	
Total carloads fruit by rail and sea	18,692.9	20,495.7	27,320.2	31,271.5	33,547.	
Total carloads vegetables by rail			6,978.4	4,276.6	3,613.6	
Total carloads vegetables by sea				410.	40.	
Total carloads wine and brandy by rail and sea	4,765.1	4,832.5	6,620.9	7,663.5	8,056.8	
Total carloads fruit, vegetables, wine and brandy			40,928.5	43,624.7	45,257.4	

The table shows that in six years we just about doubled the shipments out of the State (which for convenience I call exports). In 1890 they amounted to 16,195 carloads of ten tons each. In 1895 they 33,547 carloads. The greatest per cent of increase has been in the citrus fruits, except nuts. In all others the increase has been about 100 per cent. Nuts have about quadrupled, while citrus fruits have

more than trebled. Canned fruits were about 700 carloads less in 1895 than in 1890.

Consumption Steadily Increasing.—Taking the population of the country for these years as given in the statistical abstract issued by the Treasury Department, I find that the per capita consumption per annum of our exported fruits in pounds has been:

1890.	1891.	1892.	1893.	1894.	1895.
5.16	5.84	6.03	8.2	9.1	9.6

Some of our exported fruits went to foreign countries, and the population of California is included in the population of the whole country. But these elements would not much change the figures.

Our population has increased seven millions in six years, or between 11 and 12 per cent, and the per capita consumption of our fruits has increased 100 per cent. But what does this prove? Simply that our people ate twice as much per capita of our fruit in 1895 as they did in 1890. We are still to inquire whether they will not increase this consumption. Why did they eat twice as much in 1895 as in 1890? They consumed all we sent them in both years, and they paid for some of our dried deciduous fruits in 1890 four times as much per pound as they did in 1895. In 1890 we had good times in this country; if we could have doubled our shipments that year we would have found a market at good prices for it all. Hard times began in 1893, and prices began to go down; hard times continued, and low prices continued. We had more difficulty in selling at very low prices than we ever had in good times at high prices, but still the people ate twice as much of our fruit. But what do nine or ten pounds per capita per annum mean? It means less than a pound per month. This is too insignificant to speak of as eating fruit—it is simply tasting it. When you consider that this pound is made up of canned and dried fruit, raisins, figs, nuts, green deciduous fruit and lemons and oranges, it don't amount to tasting.

No political economist or statistician would make out his generalizations or work out his conclusions from conditions wholly abnormal. If he found three or four millions of idle people, who were bread winners for ten or twelve millions more, in a total population of sixty-nine million, and without means to buy the necessaries of life, and he found half as many more on half pay, and he also found a condition of universal depression everywhere among the greater part of all the people, he would at once find a solution of the question as to low prices and reduced consumption. He would at once say that millions of these people cannot buy fruit at all, while other millions must buy at very low prices or not at all. And if he found that in the face of all this they had doubled their consumption of an article not necessary to human existence he would conclude, I think, that if conditions changed and became again favorable they would not only still further increase their per capita consumption, but would gladly pay better prices.

We consumed in this country in 1895 14.95 gallons of malt liquor per capita.

I have such faith in the claim that fruit eating as a matter of hygiene, as well as pleasure, is making such rapid headway that it leads me to believe we may hope at least to sell one pound of fruit where our brewers can sell one gallon of beer. If we should distribute our fruit with as much enterprise as beer is diffused, we could double consumption in a year.

The point was made not long ago, and sustained by the report of your committee on the distribution of our fruits (Mr. Alfred Holman and Mr. B. N. Rowley), that our sales are made to a comparatively small number of our people. They showed a list of twenty-nine cities of 50,000 inhabitants each to which no California fresh fruit was then shipped direct. Can you find a town in the United States of 100 souls where the enterprising beer vender has not penetrated?

The committee said, further, "that the districts in which our fruits are offered to consumers are almost insignificant when compared with the wider districts where fruit is wanted, but to which it never goes."

We have widened our markets some since this was written, but not greatly. I am satisfied that when the people of the United States are again set to work they will buy our fruit, and will buy all we can grow and pay us fair prices for it, provided we prepare it well and send it somewhere in the region of their homes, and that we do not allow it to be manipulated by half a dozen middlemen, each of whom must have a profit.

The 9.6 pounds per capita must have been consumed by less than one-third of our whole population. Extend the area of distribution, and you at once find new markets and increases in the per per capita consumption. I once called attention to Census Bulletin No. 38 for 1890 as illustrating the rapid development of table uses of fruit. It will bear repetition. The first table grapes grown in the United States and shipped to New York City were 50 pounds in 1845. They were sent from the Lake Keuka district by the New York & Erie Canal. The grower was encouraged to send 200 pounds the next year, but broke the market. It was estimated that in 1890 there went from the same district to the leading cities of the East 20,000 tons for the table. The Hudson river district was estimated to have sent 15,000 tons and the Chautauqua district 15,000 tons, making 50,000 tons, or 5000 carloads, of table grapes in that year.

Further Facts About Consumption.—Let me give you some more facts about fruit consumption. I dare say some of you will be surprised to know that France is a great apple-producing country. Generally we regard France as devoted to grape culture and prune and olive growing and diversified farming.

In 1893 she produced ten times more pounds of apples than California produced of all kinds of fruits, including wine, brandy and vegetables. The value of this apple crop was over $23,500,000, and France imported 11,000,000 pounds of apples that same year.

France must have consumed over 200 pounds of apples per capita that year alone, and here we are to-day worrying about selling ten pounds per capita, made up of all kinds of fruit, dried and fresh. My authority for this apple story you will find in the report of the Bureau of Statistics of the U. S. Treasury Department for 1894. We grow alarmed when we think of shipping 30,000 carloads a year of all kinds of fruit.

A copy of the proceedings of the Western New York Horticultural Society for 1886 fell into my hands. Nineteen counties were represented, but only nine gave data from which I could compile the shipments of fruit for 1885. I found, however, that these nine counties had shipped 387,558,820 pounds of apples that year to markets near by. It was not a good year for apples, either, but these counties shipped over 19,000 carloads to market.

I called your attention to the fact in 1892, at San Jose, that the census of 1890 showed that the value of the peach product of the United States was $76,160,000, and that the people spent $1.25 per capita for peaches alone, and that large as was the industry, it was only about one-tenth of the value of the entire fruit industry. It was claimed that the peach orchards in that census year yielded about $130 per acre gross.

The Bureau of the census office having this line of inquiry in charge estimated the investments in horticultural pursuits at $1,000,000,000.

You will therefore perceive that we are engaged in no petty, insignificant business, and that Americans are a fruit-eating people.

The Element of Home Consumption.—Did you ever stop to compute the fruit eaten by a California family? Ten pounds per year per capita would not begin to tell the truth. I put the question to a foothill grower not a week ago where I was stopping over night. With the aid of his wife, he answered that they usually laid by two tons of apples and about 200 pounds of prunes and some peaches and other fruit. There were eight in the family, and occasionally a hired man or two. Ten persons consumed 5000 pounds of fruit in six months. He could not estimate the amount during the fruit season. This family consumed not less than 100 pounds per capita for the year.

Upon another occasion I took the trouble to make quite a general inquiry as to home consumption, and I found that a California family of five members consumed 75 pounds per capita. We were, then, consuming about 25 per cent of our output, with one-fiftieth of the population of the United States.

The Output Not Increased as Rapidly as Generally Supposed.—Compared with 1894, fresh deciduous fruits shipped by rail fell off 2353 carloads in 1895. Citrus fruits gained 5686 carloads. Dried fruits gained 1007 carloads. Raisins fell off slightly. Canned fruits fell off over 2000 carloads. The following table of gains and losses for the two years will show the exact facts:

FRUIT SHIPMENTS OTHER THAN CITRUS COMPARED. 1895 WITH 1894.

Kinds.	Loss.	Gain.
Green deciduous	2,352.2	.....
Dried fruits	.....	1,007.1
Raisins	52.7	.....
Nuts	72.9	.....
Canned fruit	2,136.9	.....
Net loss		3,608.3
	4,615.4	4,615.4

It will thus be seen that while citrus fruits in 1895 gained 5686 cars over 1894, all other fruits combined fell off 3608 carloads.

I am aware that this shifting of gains is partly due to frost affecting the citrus output in 1894 and the deciduous fruit output in 1895. But the fact remains that we are not increasing our output as fast as many suppose.

The Real Question is a Commercial One.—If we are to sit down and do nothing to extend our market we had better stop planting. The false quantity in the question is in assuming that we may possibly overplant, whereas failure lies alone in our failure to push our wares. There is no room for rivalry, for the interest of all lies in the success of all. Poor fruit or badly prepared good fruit pulls down the price of good fruit well prepared. We must stand or fall together, and one of the great objects of our conventions is to enable all to improve our methods of growing and marketing our fruit. All the growers of the State will take shelter under one or more honest Exchanges that shall at least control the marketing of the bulk of our dried and prepared products, and may possibly in time embrace the green fruit shipments and the output of our canneries.

The Kinds of Trees to Plant.—What shall I say? What can any one safely say?

If I should recommend prunes, some pessimist from the Santa Clara valley will arise and protest; and yet you can't go down there and buy good prune orchards for less than $500 an acre. Besides, I find that we imported over 14,000,000 pounds in 1895. It is one of the curious freaks of commerce, that while we were exporting prunes to foreign countries in 1895 we were importing largely.

If I recommend oranges and lemons, I will be pointed to the enormous plantings in the south and the rapid increase in her output; and yet I was told down there in October last that the industry is in every way promising. I turn to the tables of imports and I find that more oranges and lemons were imported in 1895 than in 1890.

If I recommend raisins, I am pointed to the hard lines of the Fresno growers; but I find that we imported nearly 16,000,000 pounds in 1895, and that the raisin grower finds the cause of low prices not alone in too rapid increase of output.

If I should recommend olives, some one would quote the late Senator Stanford, who said we could never undersell cottonseed oil and therefore he would not plant olives. And yet our ripe pickled olives are in such demand at home that we can't fill orders from without the State, and our shipments of olive oil have been so insignificant that I can't find any account of them in railroad company reports. Furthermore, we imported 775,000 gallons of so-called olive oil in 1895.

If I recommend the almond, I am confronted with the fact that many growers are grafting the trees to prunes and are at once giving the almond a black eye and impinging upon the prerogative of the Santa Clara valley to produce all the prunes required, and this, too, in the face of an importation of nearly 8,000,000 pounds of almonds in 1895.

If I recommended figs, some one will say we can't grow the true fig of commerce because we don't know how to impregnate it (a humiliating confession for a Californian), and so we go on importing 10,000,000 or 15,000,000 pounds a year.

The simple truth as I find it is this: The grower must study the conditions of soil, climate and market. If he is far distant from lines of transportation he can't raise fruit for shipment in the green state. If he is near these lines he may plant those fruits for which he finds the soil, the means of irrigation (if they exist), and the immediate climate of his orchard best adapted. He should plant with intelligent prefence to the actual conditions surrounding his home. No one can advise by any general law to be laid down what the varieties should be, and I must decline to recommend what no one ought to try to do in the absence of facts essential to giving safe advice.

Generally speaking, it may be said that enough is now locally known in the fruit regions of the State to guide any intending planter if he will exercise common sense and be willing to profit by the experience of others.

FRUIT MARKETING.

Fruit Growers' Tariff Appeal.

About the most important act of the Fruit Growers' Convention at Sacramento last week was the adoption of a memorial to Congress with reference to changes in the tariff laws. The form in which this memorial came before the convention was that of a committee report, the draft being by Gen. N. P. Chipman of Red Bluff.

Included in it were tables showing the quantity of foreign fruits entering into competition with California fruits and the extent of fruit-tree planting in this State. The report then goes on to say:

As this report is written with a view, if adopted, to form a memorial to Congress upon the subjects of which it treats, we briefly as possible present the argument as to the various fruits referred to.

We believe that wherever it is practicable the duty should be specific and not upon the ad valorem principle, by which undervaluations and frauds are directly made to aid our competitors, and even where cheap and inferior merchandise is honestly valued the result is to encourage the unloading of inferior goods upon the American market and thus displacing better classes of merchandise produced at home. An examination of the fruit schedules will show that but few varieties are taxed on the ad valorem principle, so that there is but little change needed in this respect.

The act of 1890 gave a shedule of rates which, with some changes, would be satisfactory to the fruit growers of California.

The Olive Industry.—Olives, green or prepared, should be placed upon the dutiable list. The act of 1890 admitted them free. The act of 1894 placed them on the dutiable list, with 20 per cent ad valorem duty. This should be made specific, and should be at least 20 cents per gallon. We see no

reason why a specific duty cannot be laid on olives in this form, as well as in the form of oil.

Olive oil for salad was given a specific duty of 35 cents per gallon, both by the act of 1890 and the act of 1894. The consumer gets this oil in bottles, about five of which make a gallon and sell at 75 cents to $1 per bottle. The invoice price at which it is valued for duty is about $1.08 per gallon, or a duty of 7 cents per bottle. We think this duty is too small for protection and too small for revenue, if olive oil is still to be regarded as a luxury. The duty should not be less than $1 a gallon. Olive oil has not yet reached the table of the masses. It is growing in use and should be in every household as food. The California plantings of this precious tree are increasing and should be encouraged. At present we must compete not only with pure olive oil, but also with cottonseed oil and other substitutes. In 1895 we exported 21,187,728 gallons of cottonseed oil. Much of this returned to us, after further treatment, labeled pure olive oil. It was valued for duty much below the value of pure olive oil and was sold side by side with pure olive oil at the same price generally, and that price was nearly five times the price at which it was admitted. We claim that these fabrications are harmful and undoubtedly do not possess the hygienic properties found in pure olive oil. They should not be permitted to go upon the market under the false labels now put upon them. They should pay a duty sufficiently large to enable pure oil to compete with them, and their sale should be so regulated that they could not be palmed off on unsuspecting and ignorant consumers for the genuine article.

The principle upon which bure butter is protected is the principle upon which we ask protection to pure olive oil. A striking illustration of the operation of the law regulating the sale of butter imitations is found in the fact that Illinois manufactured in 1895 over 31,000,000 pounds of oleomargarine and paid a tax on it of over $626,000, while New York State appears in the table for only 430 pounds, and that imported. The reason is stronger for protecting the home manufacturer against foreign competition than for protecting ourselves against ourselves, as we do with reference to butter.

Raisin Industry.—Raisins, Zante currants, Sultanas and all other dried products of the grape should be given 2½ cents per pound, the duty of 1890. This industry has grown so rapidly that raisins have cheapened in the market far beyond expectations and to a point affording but little profit to the grower. The present duty of 1½ cents per pound about covers the cost of transportation to New York and Chicago. The foreign article comes in with very small freight cost. Our product should have at least 1 cent per pound clearly protective, and even with this will not put our grower upon an equal footing with the foreign producer.

It must be remembered in fixing a schedule for foreign fruits competing with California fruits, that our market lies 2000 and 3000 miles away from our orchards and vineyards, and, unlike most other agricultural products, they are not grown generally throughout the United States. The apple, for example, finds a market near its place of production, while we must for our fruits seek a distant market or we have none at all. Generally speaking, the cost of transportation on imported fruits is about 30 cents per 100 pounds, while we pay $1.50 per 100 pounds.

The Almond Industry.—The almond calls for special mention. The price realized during the past two years has not been remunerative, and many trees have been worked over into prunes. It is one of the most delicate fruits, and more likely to suffer from frost than even the orange. It blooms early and is quite tender in the bloom and for some time after setting the fruit. There are many things to discourage its planting, and yet it is very desirable that we should continue its production, as since we began its culture we have produced many very desirable new varieties and have cheapened the price so that the consumer in recent years has indulged this luxury to a greater extent than formerly. Notwithstanding we have grown the almond quite extensively, the importations have increased. The rate of duty does not seem to have affected the imports. In 1892, when the duty was 5 cents, our imports were 7,629,392 pounds. In 1895 they were nearly 8,000,000 pounds. By the act of 1883 and the act of 1890 and the Mills bill the rate was 5 cents. The Wilson bill cut it down to 3 cents, which is too low. There was less revenue to the Government in 1895 at 3 cents than formerly at 5 cents and there was less protection. We ask that the duty be made 6 cents per pound on unshelled and 10 cents on shelled almonds.

The Tarragona almond, largely imported from Spain, comes into competition with the Lauguedoc of this country and all varieties not classed as soft-shells. The Princess of France and a few similar varieties come into competition with the soft and paper-shell almonds of this country. The Jordan almond is a very fancy article, and usually sells for about twice as much as any almond produced in this country. Any duty on this almond would be inoperative as a protective duty. But a tariff of 6 cents per pound on unshelled and 10 cents per pound on shelled almonds would enable our growers to successfully compete with all other varieties and make orchards remunerative that are now operated at a loss.

English Walnuts.—English walnuts are largely produced in this State. The acreage planted is greater than that of the almond and it is a more profitable tree where soil and climate are favorable. The minds of our legislators as to the walnut (and the less pretentious but valuable peanut) have been in accord, for in the acts of 1883, 1890 and the Mills bill we find the same rates imposed, except that by the act of 1890 the rate was properly increased on shelled walnuts from 3 to 6 cents per pound. The Wilson act of 1894 cut down the rate on walnuts to 2 cents. It should be restored to the old rate of 3 cents on unshelled and 6 cents on shelled.

It takes much longer to bring a walnut tree to bearing than the almond, and the area adapted to its production is much less. The duty paid upon rice by the advocates of tariff for revenue only of 1½ cents per pound is equivalent to 100 per cent ad valorem. Rice is a common article of food essential to domestic life. There can be no justification for laying this tax upon an article of necessity, while imposing a light burden upon luxuries and semi-luxuries. It is clearly a protective tariff for the benefit of the very few States which grow rice, and we cannot commend the object. The illustration is given to show that Congress may with justice and propriety grant all we ask, and may do so upon precedent as well as upon principle.

The Prune Industry.—The duty by the act of 1883 was 1 cent per pound, and the same by the Mills bill. The act of 1890 increased it to 2 cents, but the act of 1894 reduced it to 1½ cents. The present duty does not more than cover the cost of transportation to our markets, so that we practically enter them with no advantage over the foreign producer. The duty should be 2½ cents per pound on prunes and plums.

Since California has developed this industry the prune has become a common article of food, greatly prized by the masses, and has been so cheapened in price that all classes may use it. So long as the foreign trade had the market the prune was a luxury.

In 1893 foreign prunes were laid down in New York City for 4 and 4½ cents per pound, duty paid of 2 cents, and we imported that year over 26,000,000 pounds. During the past two seasons the foreign crop has been short, but still the price has not advanced materially. The fact that the foreign producer can sell for 2 and 2½ cents per pound and pay commissions and freight charges out of this will show how sharp is to be the competition when a good crop is produced abroad.

The duty of 1½ cents per pound, as has been said of raisins and almonds, merely offsets the cost of transportation. Nothing short of 2½ cents per pound will afford any protection. If the California prune grower is forced to yield the trade to her foreign competitor and go out of the business of growing prunes the foreign producer will inevitably raise his price and the consumer will lose much more than by paying the small additional duty asked if he prefers the foreign article.

It may be remarked as applicable to the orchardist generally in California that by the time he has brought his orchard to bearing, and has his houses and barns and improvements and plant complete, he has an investment of four or five hundred dollars per acre in the case of orchard tracts of ten to twenty acres. Upon this acreage and this investment to support a family and lay aside something the owner should be able to make more per acre than the farmer who tills much larger areas and can engage in diversified agriculture.

We do not ask high duties to enable us to charge high prices for our fruit. The fact is, our success depends wholly on our ability to market our large and rapidly increasing product, and we know we cannot do this unless we keep prices down so as to stimulate and increase consumption, so that the consumer is assured of low prices, whatever may be the duty, if we remain in the field, and the only question is, Shall we have the market or shall it be yielded up to the foreign producer?

The Fig Industry.—In 1883 the duty was 2 cents per pound on figs and 2½ cents by the act of 1890. The Mills bill put them on the free list and the Wilson act placed the duty at 1½ cents. Nothing could be more illogical than to put figs upon the free list, even under tariff for revenue only. Figs are not an article of necessity, and the consumption has not increased much in ten years. This fruit is really most wholesome and should be more widely consumed, and will be when our plantings are in full bearing and we shall have learned the art of growing the fig of commerce and preparing it for market. The fig bears a better price than the prune or raisin and should pay more duty. We recommend a duty of 3 cents per pound.

Sweetmeats, Preserved Fruit.—Under the general heading above all parties and all laws seem to have regarded the more costly preparations of fruit, such as glace, candied and preserved varieties, as essentially luxurious, and as such should pay a revenue. The industry in California is developing and will find a wide and profitable field. The duty was 35 per cent ad valorem under former laws, and is 30 per cent by the act of 1894. In the nature of these products a specific duty seems not practicable, but a duty of 40 per cent is none too large, and we recommend that rate.

Oranges, Lemons and Limes.—The citrus fruit industry has perhaps contributed more to bring to the notice of the world the wonderful range of California's fruit products than all others combined. In point of acreage planted, rapidity of its development, capital invested and relation to the Eastern fruit markets, it stands at the head of all our varieties. We have competitors not only in the Eastern, but also in the southern portion of the Western Hemisphere and from the islands of the sea. The orange and lemon have passed beyond the class of luxuries and have become a necessity to the American people and are demanded and consumed in large quantities. The entire country sympathized with the disaster that befell the Florida growers, and are anxious to see their groves restored. It has been the protective legislation that has given rise to the wonderful development of this industry and that has brought the orange within the reach of the masses. But this protection cannot be withdrawn without bringing ruin to the growers.

The competition with our lemons is very close and very unfair because an inferior lemon is put upon the market at low prices and seriously affects the price of good lemons. Mexico is preparing to enter into strong competition for our orange trade and will this season send in over 800 carloads. We have made no reference in this report to the labor cost entering into the production of fruits as compared with like cost to our competitors. This element no longer needs elaboration; every one understands the facts.

Our present orange and lemon duty is not as protective as it should be, and is not as high as it should be to yield revenue.

The rate under the Acts of 1883 and 1890 was 13 cents per cubic foot on box of 1¼ cubic feet and 25 cents per box of 2½ feet, and 55 cents on box of 5 feet, and 20 per cent ad valorem on each additional cubic foot. Oranges run from 128 to 260 to a box of 1¾ cubic feet. The average number is about 160 to a box, on which the McKinley bill placed a duty of about 12 cents per hundred. We claim that this duty is so inadequate as offering protection that our country is flooded with grossly inferior fruit and the business of producing good oranges discouraged. The same may be said of the duty of $1.50 laid on 1,000 oranges in bulk. In is not protective nor is it sufficient for revenue. We see no reason for these several classifications. The duty should be laid at a uniform rate per cubic foot regardless of the size of the package and should not be less than 20 cents per cubic foot and when in bulk (which are always high grade and large oranges) should bear not less than $2.50 per 1,000, and a specific duty of 10 cents per pound on citric acid and 50 cents per pound on essential oils of orange and lemon.

The Orchard of America.—In conclusion we invite attention to the fact that there is no objection, general or otherwise, and never has been, to any adequate protection duties upon competing foreign fruits, except it may have been or may be by the importers, and surley no legislation should be framed to help the importer to the injury of the home producer.

From the beginning we have had this class of dealers to contend with. They decried and belittled our raisins and our prunes and our oranges and reluctantly are now admitting that we can produce a commercial lemon. Our wines have had and are still having a hard struggle against this same class. But the consumer has demanded the home product, both because of its superiority and its cheapness and he still wants it. The orchards of California are proving to the country what her gold mines were in the '50's, with the advantage that they have come to stay and are practically unlimited in possibilities.

Nature has decreed California to be the orchard of America, if not of the globe. Here are grown the fruits of every zone. The whole country has the same interest in our success, or should have, that it has in the success and prosperity of other specially favored regions of our marvelous country—as in the South in her cotton and sugar and rice and tobacco; the great West in her corn and wheat; the Middle States in their iron and coal; the East in her manufactures. That we can produce in California every fruit known to the Mediterranean basin and the hardier fruits of all other climes should arouse the pride of all Americans and challenge their friendly aid.

The more nearly the United States is enabled to produce all articles of human consumption the more nearly we shall approach the ideal country for human habitation. We desire to furnish to the people of the United States fruits in abundance and at reasonable prices, such fruits especially as cannot be elsewhere grown in the United States. We ask only such legislation as will enable us to do this.

N. P. Chipman, Chairman.

Committeemen—Frank A. Kimball, P. B. Armstrong, W. W. Phillips, N. W. Motheral, A. Block, P. W. Allen, F. M. Righter and B. F. Walton.

THE FIELD.

The State Board of Trade on the Tobacco Question.

Messrs. J. A. Filcher, Craigie Sharp and E. W. Maslin were some time since appointed by the State Board of Trade a committee to inquire into the merits of certain California tobacco grown extensively by J. D. Culp at San Felipe, Santa Clara county, and to give an opinion as to the feasibility of manufacturing the same into cigars and other merchantable products.

The Tobacco Product.—They find on casual examination of the tobacco industry of the United States that it is one of great magnitude, and that in sections where tobacco is grown it produces more in value to the acre and is generally more profitable to the planter than almost any other staple yield. The tobacco yield of the United States is something like 500,000,000 pounds per annum, which, one year with another, brings on an average, including all the varieties and qualities, about 7 cents per pound, or a total of $35,000.000. In addition to this large production, the United States imports something like $16,000,000 worth of tobacco and tobacco products each year. We submit these figures to show the importance of the industry in this country, and incidentally to indicate what may be done in California when once it shall be satisfactorily demonstrated that this State possesses in its soil and climatic conditions all the requirements for the production of a superior quality of this important staple.

Influences Affecting the Crop.—As a rule, the tobacco crop in other States is not certain, but is often attended with total or partial failures. Too much or too little rain, windstorms, hail or frosts, which occur in Eastern and Southern States, are draw backs to the success of the tobacco crop.

None of these elements prevail in California to such an extent or at such seasons as to render them items of danger.

Here the season is long and dry and warm, enabling the planter to count with certainty on a crop each year.

Again, the use of fertilizers in most of the tobacco producing localities of the United States is an item of considerable expense, while here but little fertilizing is required.

As indicating the value of the tobacco crop per acre as compared with other staples, it is only necessary to point to the fact that the California wheat crop of 1893, which amounted to little less than $20,000,000, was grown on 2,600,000 acres of land, while the entire tobacco crop of the United States for the same year was grown on 700,000 acres of land.

Suitability of California.—Those best advised on the subject claim that California has within her borders over 1,000,000 acres of land suitable for the cultivation of high grade tobacco. When this area shall be utilized in growing tobacco, as in time it may be, the output of the State will aggregate more than the present total output of the United States. From such an industry on such a scale the advantages that would accrue are difficult to contemplate. Manufacturers would arise to work up the raw product in all centers of trade and population, and the laborers required in these factories would be legion. The railroads and other carriers would find increased business in freighting out of the State many tons of tobacco and tobacco products where they are now carrying in one ton. The farmer would receive a benefit that cannot be easily estimated. It is well known that choice tobacco lands in the Eastern and Southern States rent readily for $50 or more per acre per annum, and what is true in the East in regard to the value of land for the production of this staple would be more than true in regard to the same item in California.

Anticipations.—The increase in the value of the product of the California farm would add to the value of that farm and result in a corresponding increase to the assessment roll. The increased number of factories in cities and towns would give an impetus to all lines of business and send forward the value of all city and town property. San Francisco would become the rival of New York as a cigar manufacturing center, and its output of plug and smoking tobacco would surpass the output in these goods of Richmond or St. Louis.

To accomplish all this it needs but to be demonstrated to the satisfaction of men of enterprise and capital that California can grow a superior quality of tobacco. We believe it can. Our investigation of the subject convinces us of this important fact.

Mr. Culp's Work.—We know from most experiments made in this State in growing tobacco that the product when finally turned has been too rank and strong for manufacturing purposes, but these difficulties seem to have been entirely overcome in the product from San Felipe. Success with Mr. Culp, the San Felipe grower, seems to have long passed the experimental line.

There would seem, therefore, no better time to put this tobacco on the market strictly on its merits than at present. Its superiority would soon be recognized, and the consuming world would wake up to the gratifying fact that good tobacco can be obtained, even though devastating wars should destroy the last pound of the Cuban crop.

The fact would focus attention on California, and this State in consequence would attract the eager interest of all tobacco growers and manufacturers; while the manufacturers of the San Felipe product would find a demand for their goods which the present supply of raw product would not enable them to fill.

Being pioneers in the establishment of the merits of the California goods, they would be insured an industry that would grow with the growth of the product, be as lasting as time and profitable, possibly, beyond computation.

That there is a field inviting such enterprise is evidenced from the fact that there are now manufactured in the First Revenue District of California alone something like 62,000,000 cigars per annum, and practically all from tobacco grown outside of this State.

THE POULTRY YARD.

Poultry Keeping and Its Methods.

Read before the Farmers' Club in Pomona, November 9th, by MRS. FRANK G. HALEY.

When a few men some thirty years ago turned their attention to poultry, their friends looked on with disdain, but these pioneer fanciers were not easily discouraged. They persisted in thinking that poultry as well as fruits and animals were susceptible to improvement. The breeding of thoroughbreds is no longer spoken of as a humbug. To-day instead of the ugly, scrawny mongrel, we see about the progressive farmers' yards one or more of the pure breeds. The fanciers have rendered the farmer a great service. We have now hens that lay 200 eggs per annum, aganist the 50 to 100 produced by the common stock. We have hens that never sit and hens that spend the larger part of their time sitting. As Henry Ward Beecher says in his book on farming: "The Leghorn delights in filling her nest full of eggs and thinks her duty done, so we keep the Brahma to sit on these Leghorn eggs." The farmer has an unlimited variety from which to choose. If he has but little room he may keep the larger and heavier breeds. If he has abundant space, he may choose a small and more active breed; but he should at least aim to keep something worth having. The scrubs on the farm are nondescripts—nothing so far as their breeding is concerned. There is no uniformity in common stock and there is no method that will apply to a mixed flock to the advantage of the owner.

Poultry and Fruit.—The question is often asked: Does it pay to keep poultry in connection with fruit raising? I would say, yes. But let no one fondly dream that poultry raising is a short and easy road to wealth. The work connected with it is not hard, but it is exacting, requiring almost constant attention. It is like the housekeeper's routine of humble toil, "From sun to sun yet never done." The profits also are frequently small compared to the expectations. The disappointments of one kind or another are many and very discouraging, and one's stock of hope and patience must be abnormally large to succeed in the poultry business.

Hatching.—If you are not fortunate enough to have an incubator and must trust your fickle hen, after she has manifested a desire to sit by clucking and being ruffled in temper as well as feather, it is time to find out if she means business. If so, she must stop her foolishness and get to work. To find out for a certainty, place a few china eggs in a nest and at night quietly move the hen to the china eggs, and if she sits contentedly twenty-four hours she may be trusted with the eggs selected for her. This I find a good precaution, particularly if the eggs are high priced.

If by some chance she deserts her eggs during incubation and the eggs become cold, do not destroy them; try to find another hen ready to sit and give her the deserted eggs. In preparing the nest I find the shade and seclusion of an orange tree the most desirable. Sprinkle it with carbolic powder, also the hen, and repeat a couple of times while she is sitting. After the chicks commence hatching do not disturb them for twenty-four hours; then remove them with their mother to their coop. At the same time apply a little melted lard to their heads and throat. This will prevent head ticks from annoying them. Three-quarters of all the chicks that die before they are two months old are killed by vermin. The first feed should be hard-boiled eggs chopped finely; after that scalded meat alternating with rolled oats, and the evening feed cracked corn or wheat. Give just what they will eat up clean. Do not make a sloppy mash; rather have it dry and crumbly. You are apt to drown digestion by feeding three-quarters water to one-quarter meal. Let the natural solvents, the gastric juices, have a chance, by all means.

Care of Chicks.—The most critical period for chicks is between the time they drop their downy coats and put on their full dress of feathers. At this time they must have the very best of care, or they will drop off with very little warning. The extremes of dampness and heat are very severe on them in this transitory state, especially so on the Asiatics, which do not feather out as quickly as the Leghorn or smaller breeds. So, if their skins become parched or burned, a little glycerine rubbed into the skin will greatly relieve the chicks.

Feeding.—After the hen has left her chicks, or there are broods of various sizes, the larger ones are apt to domineer over the smaller at feeding time. A seperate run therefore is of great service, but if you haven't it, a very simple arrangement can be made for keeping them separate while eating, the expense of which is only a bundle of lath. In a convenient corner of the yard let a row of lath be driven into the ground at such a distance apart that only the smallest chicken can pass between. Another row is driven about two feet farther back and an inch farther apart, so that the medium-sized may pass in, but not the large ones, putting the food for them outside the lath. This not only prevents quarreling but enables the attendant to favor the young without their being robbed by the larger ones. It must not be forgotten that it is highly important to keep before the fowls a supply of fresh, clean water, in which put a few nails. Keep before the fowls air-slacked lime and oyster shells, which furnish egg-shell material; also feed liberally charcoal, for no one thing is more conducive to health. Break rather fine and let the fowls have free access to it.

Poultry also like a change of diet almost if not quite as well as a man, and they will thrive much better if attention if given to them in this respect. Wheat, rice, beans, cracked corn, scalded cornmeal, cooked vegetables and raw onions chopped fine, and green food comes in for a share of the routine; also an occasional feed of scalded bran, with a generous sprinkling of cayenne pepper added. The efficacy of the latter we tested when fertilizing the orchard with tankage. The fowls cratched it up more quickly than one could cover, but to our delight they repaid us doubly in eggs. In conclusion, batten up all the cracks in the poultry house. Whitewash frequently. Do not have the roosts too high. Do not overfeed or underfeed.

THE APIARY.

California Bee Notes.

Prof. A. J. Cook of Claremont gives the *American Bee Journal* some current comments on local bee affairs which are worth reproducing.

Poisonous Honey.—In a recent number of one of the bee papers I find that I am spoken of as dogmatic, because I wrote something like the following: It is well known that in many regions where the mountain laurel grows abundantly, and where the flowers are visited freely by the bees, there is never any complaint of poisoned honey. (I quote from memory.) I did not mean in writing this to say that there were no cases of poisoning by such honey; I simply meant that there was no report in those localities. I got my information not only from frequent communications in the bee papers, but also from quite an extended correspondence from people in such regions. I do not say that such honey is never poisonous. I simply gave reasons which seemed to me to leave the matter in doubt, and left for others to decide in view of the facts.

Good Honey County.—It is probable that San Diego, the southernmost county of California, is one of the most wonderful honey regions of the world. It is reported that fifty-eight carloads of honey were shipped from that county in 1895.

Rainfall in California.—As is well known, southern California has produced almost no honey during the season of 1896. It seems a pretty well settled fact that unless the rainfall equals 15 inches, there will be a very slight honey crop. The rainfall in 1895 and 1896 at Claremont was hardly more than 10 inches. During the past week we have had an astonishing rainfall, which is the more of a surprise as it has come before the rainy season usually sets in at all. The Government rain gauge at Claremont registered over five inches, or half the entire amount of last year. "Old Baldy," a high mountain, which is plainly in sight and only a few miles from our place, is capped with snow. This makes the prospect of a long rainfall this season very flattering. Thus it is that the farmers, no less the bee keepers, are feeling very happy.

Amiable Bees.—The fact of the large and numerous orchards of southern California, together with the fact that pollination by bees is often essential to a full crop of fruit, makes it almost certain that very soon fruit growers will very generally be bee keepers as well. This makes it very desirable that the bees of California should be very amiable—those not likely to sting. Would it not be well then for our enterprising breeders of queens to introduce into southern California the very quiet Carniolan bees? At present the bees of southern California are very largely blacks or hybrids. Such bees are proverbially cross. Only last week we read in the papers of a horse being killed by being stung by bees. I believe our bee keepers should consider the matter of the introduction into our State of the most amiable races.

THE HOME CIRCLE.

An Old-Fashioned Christmas.

The back-log's flame has died away,
The embers into ashes drift;
Outside the snows are eddying, gray,
And piling fast in many a rift.
White-robed is now the cedar tree
Where once the catbird nightly sang,
And from the eaves by two and three
The icicles like arrows hang.

The shadows on the somber wall
Flit, cross and dance amid the gloom,
And streaks of ghostly color fall
In changing hues about the room;
The spiders in the corners dim
Within their webs the closer cling,
And from the mantel's oaken rim
A pair of children's stockings swing

O'er field and forest, lane and road,
Fast and faster swirl the snows,
And in the barn-loft, snugly stowed,
A drowsy rooster wakes and crows;
The clock strikes twelve and midnight wanes,
While winter skies stretch cold and drear,
Frost-flowers blossom on the panes,
The snows float by and disappear.

And then across the roof-tree swells,
Borne by the winds that fall and rise,
A sound of many hurrying bells,
A sound that ebbs and peals and dies;
And next adown the chimney creeps
The children's Saint in all the lands,
And, true to all the trysts he keeps,
White-bearded on the hearthstone stands.

—Ernest McGaffey.

An Amazed Burglar.

It was the year I graduated that our class adopted a "cry"—an absurd imitation of college yells. As we were all girls, our parents very properly censured the new departure, and we seldom gave our cry in public. But during our woodland rambles it often rang out, and I was noted for my proficiency in rendering it effectively.

"Minnie," said Myrtle Bates, one of my classmates, "if you are ever chased by a mad dog or man, just lift up that terrible voice of yours in the 'ha-ra-ya,' and you are saved. Your hearer will flee to the uttermost parts of the earth."

Well, I graduated in due season, and then went on a long visit to Grandfather Johnson. He and Grandma lived in Stockton, a small village in northern Vermont. It was their custom every year to make a regular New England feast at Thanksgiving, to which their sons and daughters, with their children, were invited. I had always looked upon this as one of the gala days of life. This year it was suggested that I should go to them in October and stay till after Thanksgiving, when I could return with my father and mother. Of course I was eager to go, and one fine day found me seated in a big, old-fashioned rocking-chair by grandma's kitchen fire, with a bowl of bread and milk in my hands, talking and eating with all my might.

"What is going on in Stockton, grandma?" I asked. "Anything exciting?"

"Well child, there is quite an excitement here just now. The store has been broken into."

"By burglars?"

"So they say."

"When did it happen? And what did they take? Have they been caught?"

"No, not yet. The thieves stole about twelve dollars' worth of stamps, some jewelry and fifty dollars in money."

"Not a big haul," said grandpa; "but they took all they could find."

"Oh dear! I hope they won't break into any of the houses!"

"No danger of that, Minnie; they are probably city sharpers, and know there is little money in the village. Don't get your head filled with fancies; you are quite safe here."

Nothing more was said on the subject, and as the time passed on I forgot all about it. There was plenty to take up my mind. I went to the mill with grandpa, jogging along behind the old white horse who seemed like one of the family. I fed the hens, and helped grandma about the house. A week before Thanksgiving the preparations for the day began in earnest. Mince meat was prepared, and I pared and chopped the apples. There was raisins to seed, citron to cut up and currants to wash. All took their share of work. Grandpa cracked butternuts and walnuts, selected the largest, reddest apples, and the best ears of corn for popping.

One night a man called to pay grandpa some money he owed him—three hundred and forty dollars. He counted it carefully, then put it in his desk.

"It's too late to carry this to the bank," he said, "but I guess it will be safe enough. There are no robbers in Stockton."

"Well, there, Hiram!" said grandma, "I wish you hadn't said anything about robbers; it brings to mind those city sharpers."

"Oh, they're far enough off—they won't venture back again in a hurry. There isn't a particle of danger."

I was not so sure of that. I felt nervous and frightened. My room was an upper one, and a long way from my grandparents' chamber on the ground floor. We were tired and went to bed early, but I could not sleep for a long time. At last I fell into an uneasy slumber. I awoke with a start. What was that peculiar noise underneath my window? At first I thought it the rustling of a bush blown by the wind against the house. But it was too continuous a sound for that. I sprang out of bed and went to the window. I could see nothing, but the noise still continued. Cautiously raising the sash, I thrust my head out and looked downward, and there, directly beneath me, stood a man who, by the aid of a dark lantern, was cutting out the glass in one of the side lights of the front door.

I was paralyzed with fear. I thought of the money, of the poor old people sleeping peacefully in their room. In order to reach them I must go down the stairs, past the door the ruffian was liable to open at any moment, through a long hall and the sitting-room. But what was to be done must be done quickly. Carefully lowering the window, I moved noiselessly toward the hall.

What if I should be too late—or should encounter the robber? No matter—I must make the attempt to reach my grandparents at any risk. It would never do for me to stay there in cowardly inaction.

I had to pick my way cautiously along, for it was very dark. Just as I reached the lowest stair I heard the key turned in the lock, the door swung open, and the burglar entered, the rays of his lantern falling full upon my face.

It is said that a drowning man sees his past in a flash. I think my mental condition must have been similar to his, for, strange as it may seem, memories of my schooldays passed through my mind, including the words Myrtle Bates had said concerning our class cry, and I clutched at what seemed, to my fear-benumbed brain, the only thing that could save me. My senses must have entirely departed, for certainly a moment's sane reflection would have prevented me from doing such a rash thing; as it was, without an instant's hesitation I flung my arms high in the air, and there broke upon the stillness of the night, in my wildest, shrillest accents, the unmeaning jargon of our class cry.

Whether the fellow thought I was some unhappy spirit, returned to earth and giving vent to my troubled soul in language unknown to mortals, or that there was some magic in the words which would cause a body of armed men to spring from some unknown quarter, I know not, but before the last syllable died away he was gone.

I did not stop to shut the door, but flew to grandma's room. She had heard my shriek, and had arisen and lighted a lamp.

"What is the matter, Minnie? Have you had a bad dream?" she said, as I sank into a chair.

It was some time before I could speak. When I did grandpa could hardly believe my story; but the missing side light of the front door convinced him I had not been dreaming.

You can imagine how he praised me for my bravery, and how proud I felt! When a few days later my parents arrived and heard the wonderful tale, I said to father:

"Papa, you can never say again that our class cry has not been of some service in the world. If it had been entelligible, it would perhaps have failed of its object."

He smiled and patted me on the head.

"No one but a madcap like you would ever have thought of putting it to such a use," he said.

Well, we had a merry Thanksgiving in spite of our fright. And nothing has been heard of my burglar from that day to this. Let us hope that the apparition which so noisily confronted him gave him such a shock that he has indeed fled to the uttermost parts of the earth.—Florence Mason.

Gems of Thought.

It is supremacy, not precedence, that we ask for the Bible; it is contrast, as well as resemblance, that we must feel compelled to insist on. The Bible is stamped with specialty of origin, and an immeasurable distance separates it from all competitors.—Gladstone.

At the bottom of every leaf stem is a cradle, and in it is an infant germ, and the winds will rock it and the birds will sing to it all summer long, and the next season it will unfold. So God is working for you, and carrying forward to perfect development all the processes of your lives.—Beecher.

Every human soul has a complete and perfect plan cherished for it in the heart of God—a Divine biography marked out which it enters into life to live. This life, rightly unfolded, will be a complete and beautiful whole, an experience led on by God and unfolded by His secret nurture, as the trees and flowers by the secret nurture of the world. We live in the Divine thought. We fill a place in the great, everlasting plan of God's intelligence. We never sink below His care, never drop out of His counsel.—Horace Bushell.

Love is the greatest thing that God can give us, for Himself is Love; and it is the greatest thing we can give to God, for it will also give ourselves, and carry with it all that is ours. Let our love be firm, constant and inseparable, not coming and returning like the tide, but descending like a never-failing river, ever running into the ocean of Divine excellency, passing on in the channels of duty and a constant obedience, and never ceasing to be what it is, till it comes to what it desires to be; still being a river till turned into a sea, and vastness even the immensity of a blessed eternity.—Jeremy Taylor.

I am sure that you, my people, will pardon me if I make this as my own personal confession of my own personal faith. My creed is a very short one. It is all in one word—Christ. My law is a very short one. It is all in one command—Follow me. My Bible is a very simple one. It is all concentrated in this—a knowledge of Christ. And though God knows I am often disloyal, and often forget, and often deny, still, when He turns to me and says, "You call me Master and Lord," I stand before Him and I say, "Thou art my Master and thou art my Lord. What thou sayest to me is truth, what thou dost before me is righteousness, what thou art to me is God; whither thou goest I will go; what thou commandest I will obey; to be like Thee is the supreme end of my ambition; to have Thee love me as though I deserved that love is the supreme object of my affection."—Rev. Lyman Abbott.

Not many years ago, according to the annals of the India Office, a Queen's messenger, or some other inferior official, was robbed, though not injured in any way, on his road to Cabul, and the British Government, of course, wrote to complain of it. No reply was received for months, but at last the Emir wrote: "The matter you mention has been thoroughly investigated, and not only have the robbers of your messenger been put to death, but all their children, as well as their fathers and grandfathers. I hope this will give satisfaction to her Majesty."

The Slipper-Maker's Fast.

Isaac Josephs, slipper-maker, sat up on the fifth floor of his Allen street tenement, in the gray of the morning, to finish the task he had set himself before Yom Kippur. Three days and three nights he had worked without sleep, almost without taking time to eat, to make ready the two dozen slippers that were to enable him to fast the fourth day and night for conscience' sake, and now they were nearly done. As he saw the end of his task near, he worked faster and faster while the tenement slept.

Three years had he slaved for the sweater, stinted and starved himself, before he had saved enough to send for his wife and children awaiting his summons in the city by the Black Sea. Since they came they had slaved and starved together, for wages had become steadily less, work more grinding, and hours longer and later. Still, of that he thought little. They had known little else, there or here, and they were together now. The past was dead; the future was their own, even in the Allen street tenement, toiling night and day at starvation wages. To-morrow was the feast, their first Yom Kippur since they had come together again,—Esther his wife, and Ruth and little Ben,—the feast when, priest and patriarch of his own house, he might forget his bondage and be free. Poor little Ben! The hand that smoothed the soft leather on the last took a tenderer, lingering touch as he glanced toward the stool where the child had sat watching him work till his eyes grew small. Brave little Ben, almost yet a baby, yet so patient, so wise, and so strong!

The deep breathing of the sleeping children reached him from their crib. He smiled and listened, with the half-finished slipper in his hand. As he sat thus a great drowsiness came upon him. He nodded once, twice; his hands sank into his lap, his head fell forward upon his chest. In the silence of the morning he slept, worn out with utter weariness.

He awoke with a guilty start to find the first rays of the dawn struggling through his window, and his task yet undone. With desperate energy he seized the unfinished slipper to resume his work. His unsteady hand upset the little lamp by his side, upon which his burnishing iron was heating. The oil blazed up on the floor and he ran toward the nearly finished pile of work. The cloth on the table caught fire. In a fever of terror and excitement the slipper-maker caught it in his hands, wrung it and tore at it to smother the flames. His hands were burned, but what of that? The slippers, the slippers! If they were burned, it was ruin. There would be no Yom Kippur, no Feast of Atonement, no fast,—rather, no end of it; starvation for him and his.

He beat the fire with his hands and trampled it with his feet as it burned and spread on the floor. It only flared up more brightly. His hair and his beard caught fire. With a despairing shriek he gave it up and fell before the precious slippers, barring the way of the flame to them with his body.

The shrieks woke his wife. She sprang out of bed, snatched up a blanket, and threw it upon the fire. It went out, was smothered under the blanket. The slipper-maker sat up, panting and grateful. His Yom Kippur was saved.

Some one passing in the street had seen the glare in the window, and sent an alarm for the firemen. They came, and climbed the many stairs to no purpose. There was nothing for them to do. The slipper-maker was back at his bench, working as if his life depended upon it, as indeed it nearly had. Few of the tenants in the big building ever knew there had been a fire. They awoke to hear of it when all Jewtown was stirring with preparations for the feast.

The fire was reported on the police returns. When the reporters came to see about it, the slipper-maker was

asleep, his task ended at last. His wife, a little woman with a patient voice, was setting the things on the table for the family dinner that was to usher in the long fast. Two half-naked children played about her knee, asking eager questions about it. The precious slippers were there, finished and ready, two dozen, all safe. I heard their story from the woman herself. Asked if her husband had often to work so hard and what he made by it; she shrugged her shoulder and said, "The rent and a crust."

And yet all this labor and effort to enable him to fast one day according to the old dispensation, when all the rest of the days he fasted according to the new.—Jacob A Riis in Atlantic.

Curious Facts.

The smallest mouse will cause the biggest elephant to quake with fear.

Lions born in captivity are more dangerous and harder to train than captured ones.

With a single blow of his insignificant tail an elephant can knock out the strongest man.

The average walking pace of a healthy man or woman is said to be seventy-five steps a minute.

Microscopists say that the strongest microscopes do not, probably, reveal the lowest stages of animal life.

If the armies of Europe should march at an eight-mile gait, five abreast, fifteen inches apart, it would require nine and a half days for them to pass a given point.

On the eastern coast of Ireland it rains on an average of 208 days in the year, in England about 150 days, at Kazan about 90 days and in Siberia only 60 days.

Careful experiment has shown that through a certain depth of water, where only 50 per cent of the red rays passed through, there were 60 per cent of orange, yellow 80, green 90 and indigo 95.

When lions and tigers bring forth young in captivity, the greatest care has to be exercised to keep them for several days in the dark and undisturbed, as otherwise the mothers will almost invariably destroy their cubs.

Sunlight does not penetrate deeper than 1200 feet. Very sensitive photographic plates exposed for 10 minutes at 400 fathoms deep showed no development of light.

During the time the sun is above the horizon the light penetrates at least 150 fathoms. For eight hours it is at a depth of 175 fathoms, and just for a few minutes, at noon, it goes to a depth of 190 fathoms.

In military stables horses are known to have pretended to be lame in order to avoid going to military exercise. A chimpanzee had been fed on cake when sick; after his recovery he often feigned coughing in order to procure dainties.

Tortoise live to a great age. In the library of Lambeth Palace there is the shell of a tortoise which was brought there in 1623 and which lived until 1730. Another in Fulham Palace, procured by Bishop Land in 1628, died in 1753, and one at Peterboro lived 220 years.

The skin of the whale is from two inches to two feet thick, and the skin of a large specimen weighs 30 tons. The rhinoceros is the thickest-skinned quadruped, with a hide so tough as to resist the claws of the lion or tiger, the sword, or the balls of the old-fashioned musket.

"Women do not make good detectives," recently remarked the superintendent of one of the largest detective agencies in this country. "Women who are willing to embark in our line of work are unreliable, sentimental, emotional and as dangerous to us as they are to others. I once paid a girl several hundred dollars for shadowing a notorious criminal, whom we wanted to land. She followed him like his own shadow for three months, and I presume she is doing it yet, for at the end of that time they got married and skipped over to England."

Popular Science.

There is no water on the moon's surface.

Our sun is but one of thousands of others of equal or greater magnitude.

The light of the moon is only about one six-hundred-thousandth that of the sun.

Wind power is derived from the unequal heating of various portions of the earth by the sun's rays.

Astronomers say that there is every reason to believe that human life on Mars is much like it is on this earth.

The greatest depth, writes Prof. Seeley in his "Story of the Earth," at which earthquakes are known to originate is about thirty miles. It has also been calculated that a heat sufficient to melt granite might occur at about the same depth.

A Hamburg young man has just had his sanity proved by the Roentgen rays. He declared ten years ago that he had a bullet in his head, which he had fired into it in trying to commit suicide. He complained of the pain; and, as he attacked his keepers, and the doctors could find no trace of a wound, was locked up as a dangerous lunatic. The Roentgen rays have now shown the exact place of the bullet.

"A healthy infant sleeps most of the time during the first few weeks," says the New York *State Medical Journal*, "and in the early years people are disposed to let children sleep as they will. But from six or seven years old, when school begins, this sensible policy comes to and end, and sleep is put off persistently through all the years up to manhood and womanhood. At the age of ten or eleven the child is allowed to sleep only eight or nine hours, when its parents should insist on its having what it absolutely needs, which is ten or eleven at least. Up to twenty a youth needs nine hours sleep, and an adult should have eight. Insufficient sleep is one of the crying evils of the day. The want of proper rest and normal conditions of the nervous system, and especially the brain, produces a lamentable condition: deterioration in both body and mind, and exhaustion, excitability and intellectual disorders are gradually taking the place of the love of work, general well being and the spirit of initiative."

DOMESTIC ECONOMY.

Domestic Hints.

STERLING SAUCE.—Cream one-half cupful butter, and, gradually, one cupful light brown sugar, one-fourth cupful milk, drop by drop, also two tablespoonfuls wine or brandy. The milk should be added gradually as it is otherwise liable to curdle. Pile the sauce lightly on a dish and serve with the pudding. Grated nutmeg may be added if liked, and powdered white sugar may be used in place of the brown. If a liquid sauce is desired, it may be put over the steam of the tea-kettle and stirred until soft but not oily.

FRENCH FRUIT PUDDING.—To one cupful finely chopped suet mixed with a little of the flour add one cupful each of molasses and sour milk; and two cupfuls flour, mixed and sifted with one and one-half teaspoonfuls soda, one-half teaspoonful each of salt and cloves, and one teaspoonful cinnamon; add one and one-fourth cupfuls raisins, seeded and chopped, and three-fourths cupful currants, mixed with one-half cupful flour. Turn into buttered mould, filling it two-thirds to three-quarters full, tie on the cover, and steam four hours, setting the mould on a trivet and having the boiling water come half way up the mould. When replenishing the water, use boiling water. To cleanse the currants, flour them, then wash, dry thoroughly and flour again when using them for the pudding.

POTATOES BAKED IN HALF SHELL.—Wash carefully and bake six medium sized potatoes in a hot oven, putting them in a dripping pan, as they will then be easier handled. When done, cut a slice from the top of each, and scoop out the inside. Mash, add two tablespoonfuls of butter, salt, pepper, and moisten with three tablespoonfuls hot milk; then add the whites of two eggs, well beaten. Beat the mixture until creamy, refill skins, leaving it rough on top, not smoothing it down, and bake from five to eight minutes in a very hot oven. Sprinkle if desired, before baking, with grated cheese. The cheese used in the lesson was a combination of the American and Parmesan cheese, but ordinary cheese may be used. Parmesan is best bought by the pound, and grated as needed. To serve baked potatoes satisfactorily, work them in the fingers until soft and mealy, then break open to let out the moisture, and serve immediately. New potatoes are not good for convalescents or young children, as they are not thoroughly ripe.

Hints to Housekeepers.

Water used instead of milk for mixing cake makes a loaf which remains moist a long time.

Plain paste for pastry may be made flaky if it is rolled thin, folded, left in the ice box over night, and baked before it has grown warm.

A handsome sofa pillow cover may be made of figured denim. Outline the pattern with rope silk of some dark, rich color and fill in the figures with gold-colored silk in the darning stitch.

Plants that have been recently repotted, palms especially, should not be brought at once into a living room, but kept where it is cool, nor should they be watered so plentifully as when they were in a pot-bound condition.

Velvet or plush that has become creased, and whose nap is matted, should be dampened on the under side with clear water. Then hold the goods tight over the face of a hot flatiron, and rub the marred place with a clothes brush.

Decanters and carafes that are stained inside may be cleaned with a mixture of vinegar and salt, rock salt being best for the purpose. To a handful of salt allow a gill of vinegar; put both in the decanter and shake well until the stains have disappeared. Rinse well.

Gilt picture frames may be freshened and brightened by washing them with a soft brush with the following mixture: Put enough flowers of sulphur into a pint of water to give it a yellow tinge, add two onions cut into pieces and let them boil. Strain into a dish, and when the liquid becomes cold it is ready for use.

This picking your teeth behind a napkin is a questionable proceeding. It looks as if you were determined that none of the dislodged particles should fly across the table at least. But it's better not to go through this process unless the state of you teeth absolutely requires something of the kind.

To prevent the icing of a cake from running down the sides double a piece of oiled paper three inches wide and pin it closely around the cake, letting the band come a half inch above the cake. In this way a cake may be frosted evenly and with a thick layer to its edge. Do not remove the band of paper until the icing is thoroughly dry.

To test the heat of an oven use a bit of white paper. If it burns at once the oven is too hot for anything; if it turns a delicate brown, it indicates pastry heat; for cake it will be dark yellow; light yellow shows the proper heat for biscuit and sponge cakes, or any requiring rather slow baking. For meats the first heat should be strong, to keep the juices in the meat.

Many of the rattan chairs used in blue and white bedrooms, and in other rooms where a blue chair would harmonize with the other surroundings, are painted with dark blue enamel paints in colors ranging from a bright dark blue to a navy blue. Though these chairs show dust quickly, that can be easily brushed out, and they are soiled much less quickly than chairs enameled in white. When cushions are used in these chairs they are of pale blue linen, of blue denim tufted with white or dark blue, or of white embroidered in blue. Cretonnes in large flowers on a blue ground are also used. Sometimes the tea table of rattan is also painted a dark blue, as well as the waste basket that stands by the desk.

For shampooing take five cents worth of powdered castile soap, the same quantity of borax, add to them two tablespoonfuls of alcohol, the beaten yolk of an egg and a pint of hot water. Put this in a bottle and cork it tightly. When used, rub well into the scalp and make a good lather. Carefully wash the hair in several waters, having the first water hot and the last one cool. This will prevent taking cold if the hair is dried thoroughly.

While napkin rings are now generally vanished from the home table, some persons do not want such handsome articles to be forgotten in some dark closet, and they have conceived the idea of converting them into receptacles for salt. By covering one end with a piece of silver and putting on three tiny feet the discared ring is transformed into a pretty little dish. If a ring is very wide it may be cut into halves, and two dishes made from it.

From an investigation as to the cause of 4790 cases of poverty it is learned that 38.2 per cent of the number was due to old age; 27.3 to physical infirmity and 5.10 per cent was the result of accident and sickness.

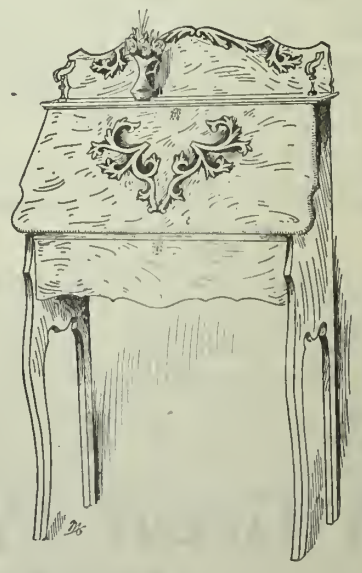
Mrs. A.: "Do you use condensed milk?" Mrs. B.: "I think it must be condensed. There is never more than a pint and a half in a quart."

One of the funniest things in the world is to see a girl wearing bloomers cry like a woman.

The brain of an ant is larger in proportion to its size than that of any known creature.

We want you to know about our store.

We've a catalogue, over 100 pages, full of pretty pictures (costs us 30c. each, mailed,) and we'll send you one, free, if you'll say you want it.



Here's a price-hint:

Parlor writing-desk, $7.
Solid oak, neatly carved. Mahogany color if you'd rather have it.
Roomy: large drawer below desk-part, numerous pigeon-holes and small drawers on the inside.

The catalogue is full of just such tempting offerings as this. You'd better have it.

California Furniture Company.
(N. P. COLE & CO.)
117 Geary St.,
San Francisco.

Skirts, Gown and Jacket.

A WALKING GOWN.

1009—Reginia Corsage.

Sizes for 34, 36, 38 and 40 Inches, Bust Measure.

A heavy-weight striped mohair in prune and green is the fabric of this smart gown, the "Reginia" corsage and "Khiva" skirt combined. The round waist is double-breasted and the outside is drawn smoothly over a fitted lining, showing no seams but those under the arms; or, if preferred, it may be fitted at the dart seams. The revers-collar is of green velvet, and the girdle is heliotrope and green changeable silk. A linen chemisette and tie complete the costume, while chemisettes of lace, chiffon or silk are liked just as well.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

967—Khiva Skirt.

Sizes—Medium and Large.

This is an exceedingly graceful design, having seven gores and measuring about five and a half yards around the bottom. It fits the figure trimly at the top, and the fullness in the back is gathered, allowing it to fall in easy folds. This model is used for the skirt illustrated. The popular finish for the bottom of the skirt is a facing about 10 inches deep of haircloth or canvas and velveteen binding.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

1015—Pierette Jacket.

Sizes for 12 and 14 Years.

This comfortable and becoming little costume consists of the "Pierette" jacket and "Edgemere" skirt and is suitable for general wear. The jacket is a simple Eton, fitted loosely, to be worn over a blouse waist, or with a fancy chemisette. It has the new sleeve, fitting the arm snugly till it flares out in the high puff. Our model is fancy bourette, of a medium brown

JAUNTY AND BECOMING.

shade, and a changeable green and brown silk taffeta silk waist.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

799—Edgemere Skirt.

Sizes for 12 and 14 Years.

This is a very popular style of skirt, cut with a gored apron front, and the remainder is in circle shape, with a bias seam down the back. The back is laid in two godet plaits, held in position by a narrow tape or elastic fastened on the inside. A deep facing of haircloth or crinoline finishes the bottom of the skirt. Any of the popular woolen or cotton fabrics may be chosen for this model, and it can be worn with any style of basque, waist or coat.

A special illustration and full directions about the pattern will be found on the envelope in which it is enclosed.

Fashion Nots.

There is but little change in the regulation wedding costume from season to season. The most approved styles are quite plain. Skirts are made with long trains and rarely vary, save in minor details. A Paris dress of white satin duchesse is made with a skirt with plain front and a long, sweeping train. The waist has a front with a surplice effect over a full vest. The vest and collar are of tulle. From the shoulder seams on either side, the satin falls to the bust and is draped across from left to right, fastening at one side, with a cluster of orange blossoms. The sleeves are close fitting and have very large puffs at the shoulders. These puffs fall almost to the elbows; the cuffs, collar and one side of the skirt are trimmed with wreaths and clusters of orange blossoms. The tulle veil is held by a jeweled comb and covers the entire figure.

A wedding dress for a widow is made of pearl-colored brocade, with with shadings of heliotrope. The corsage is high and close, with a collar of tulle; the leg-o'-mutton sleeves are moderately full at the tops, and divided at the wrists and filled with tulle ruchings.

As a dress material, velvet is a prime favorite. A walking suit of copper-colored velvet is trimmed with black fancy braid. The skirt is fitted rather closely over the hips, is almost severely plain in front, and has a wide spreading fullness at the back. The skirt is of reasonable walking length, and three rows of open-work braid at the hem, also a band of the same trimming down the seams at the sides. The waist is an Eton jacket, with very wide lapels and leg-o'-mutton sleeves. The jacket fronts close with two large enamelled buttons. There is a high, rolled-black collar, and a silk tie with a large bow in front. A waist of black India silk is worn underneath this jacket, and a belt of black Swede leather with silver buckle.

A stylish costume is made of silver-gray peau de soie. The skirt is cut after the recognized model, and has a series of narrow bias folds at the hem. The waist is close fitting, and has a trimming of gold and iridescent passementerie that almost covers the fronts on either side of a vest composed of cascades of lace. There is a high, flaring collar, with ruchings of lace inside. The leg-o'-mutton sleeves are without trimming, save a pointed cuff of passementerie.

Brocades of all sorts are much used; both for trimming and for entire gowns. Small bits of genuine old weaves are in great demand, and whenever in sufficiently good condition are used for hat crowns, belts, vests and other dress trimmings.

Glace silks, somewhat heavier than the old taffetas, and often figured, are also conspicuous gown trimmings, and moires are seen in profusion, though they are not in favor for very young women.

An evening gown of pale gray moire, trimmed with white tulle and pink moss rosebuds, is very charming. Again other moire gowns are hung entirely with thin stuffs, tulle and silk gauze, the glittering wave of the foundation showing through, and a folded belt and perhaps tiny puff sleeves matching.

With the palest and thinnest, and even white tulles, spangled headings will be used with mink and sable fur for trimmings. At the shoulders of the bodice several tails will mingle with the light sleeve drapery, while a wide belt of fur may distinguish some smart model that bears the name of a great maker.

Your chimney has as much to do with your light as your lamp has.

The Index tells what Number to get; sent free.

"Pearl top" or "pearl glass."

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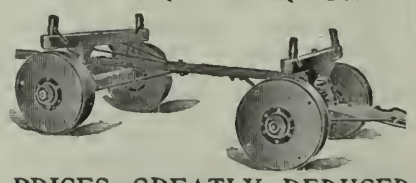

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School of Practical, Civil, Mechanical, Electrical and Mining Engineering,

Surveying, Architecture, Drawing and Assaying.

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Assaying of Ores, $25; Bullion and Chlorination Assay, $25; Blowpipe Assay, $10. Full course of assaying, $50. Established 1864. Send for Circular.

Potatoes,

Tomatoes, Melons, Cabbage, Turnips, Lettuce, Peas, Beets, Onions, and all Vegetables, remove large quantities of Potasl from the soil. Supply

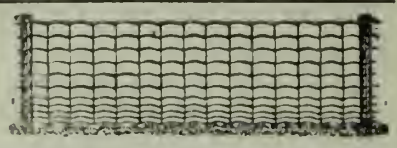
Potash

in liberal quantities by the use of fertilizers containing **not less than 10% actual Potash.** Better and more profitable yields are sure to follow.

Our pamphlets are not advertising circulars booming special fertilizers, but are practical works, containing latest researches on the subject of fertilization, and are really helpful to farmers. They are sent free for the asking.

GERMAN KALI WORKS,
93 Nassau St., New York.

MEYER, WILSON & CO., San Francisco, Cal., are our Agents for the Pacific Coast.



Behold, What a Fire a Little Spark Kindleth.

One little runty pig crawled through a rail fence from the highway meandered up around the barn, sneaked through the gate and introduced Hog Cholera to the fattening herd. The resulting loss would have covered the cost of pig-tight Page fence for that whole farm. Are you protected?

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.

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COLD WATER PAINT.

A DRY POWDER, requiring only the addition of COLD WATER to be ready for instant use.

Takes the place of OIL PAINT. Its covering capacity is fully 100 per cent greater.

It's durable, and will not scale off.

CHEAPER AND WHITER THAN WHITEWASH.

Easily applied. Furnished in White and in FIFTEEN DIFFERENT COLORS.

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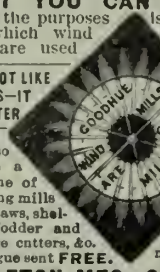
THAT YOU CAN RELY UPON for all the purposes for which wind mills are used is the GOODHUE PUMP AND POWER MILL.

IT IS NOT LIKE OTHERS—IT IS BETTER



Our famous Success 1 horse TREAD POWER is a Marvel. Adapted to all uses requiring a moderate power.

We also make a full line of grinding mills wood saws, shellers, fodder and ensilage cutters, &c. Catalogue sent FREE.

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WAGON AND PLATFORM SCALES

HOOKER & CO. 16-18 DRUMM STREET, S. F.

How to Grow Climbing Plants in the San Joaquin.

Miss M. D. Eshleman of Fresno is entitled to rank among the foremost women in California agriculture. RURAL readers are already familiar with her progressive dairy work from frequent allusions to it in our columns. Evidently Miss Eshleman is just as thorough and successful in her flower garden as in her fields and stables. A picture of her lovely home recently appeared in *Gardening*, an eastern publication, and from her descriptive notes given in connection therewith we draw suggestions to those who wish to succeed in the trying interior climate of California.

Making Garden Soil on the Plains.—Ten years ago this place was simply a house set in the drifting sand, but sand need not deter anyone who loves his home and is willing to apply himself to beautify it, from growing trees and shrubs and vines, and tranforming a desert into an Eden. I had some of the sand removed from about the house and the garden and four feet deep of good red soil hauled in and scrapings from an old corral mixed in with it, also some sharp sand from the ditch was added to keep the red land from baking. That is all the preparation the ground had.

Vines Which Succeed.—You will observe the luxuriance of the vines. At the corner alongside of the steps, low down, is English ivy. Next comes a prairie rose that I got under the name of Prairie Belle; then comes the light lavender wistaria, on the corner is a golden-netted honeysuckle, then a few walnut leaves from a plant that grew up without aid and is cut down every year to the ground, then comes two roses—Waltham Queen and Devoniensis, and after them come a plant of *Solanum jasminoides*, a Gold of Ophir rose, two more solanums, then the pathway, and beyond it the light blue *Plumbago Capensis*, then another plant of solanum; between the awnings is another golden netted honeysuckle, and next to it the white blooming Chinese wistaria. Further around come three Marechal Neil roses and a climbing La France rose, then three Banksian roses take up the end of the side of the house. I am budding other kinds of roses on the Banksians and find they do nicely. The tank house at the end of the residence is also covered with vines; on it I have *Clematis Crispa* and eastern grape vines. And an adjoining brick building is clad with moon flowers and Japanese ivy.

Palms and Roses.—At the north side of the house tall palms stand in a wide circle of roses. The roses on the outside are Perle des Jardins, next American Beauty, third row is Mme. Honore de France, and the inside mass is of Prince Camille de Rohan. All of these are healthy and grow finely. In trying to make my roses grow I have trenched a couple of feet deep between them, avoiding cutting their roots as much as possible, and filled in with fresh earth, and have also given them, late in summer, heavy applications of weak manure water. Every year I find myself taking out the weak plants from these beds and filling in some strong ones. The roses removed are put out in fresh ground and make a strong growth, showing plainly how beneficial a change of ground is for the queen of flowers. The La France rose makes a beautiful hedge, we have 180 plants of it used in this way.

Lawns and Special Plants.—We have planted a lot of the Texas blue grass and hope to make a lawn of it next year, as the ordinary Kentucky blue grass will not stand our hot sun.

Among the other conspicuous plants in our garden is a twelve-year-old eucalyptus about 70 feet high, a handsome magnolia about half that height, and some fine oleanders. We raise the oleanders in this way. We cut the wood twelve to eighteen inches long, and plant these pieces with a crowbar; they rarely fail to grow. We prefer to cut the bushes back to the ground every five or six years, and keep them topped back, as the bloom is finer on the young growths.

Fuchsias and heliotropes are not quite hardy; they need the protection of lath houses to grow them to perfection. Most of the hardy shrubs do well, notably mock orange and crape myrtles.

Shotgun Barrels.

Why shotguns should be so expensive compared with rifles is a question often asked. It is on account of the expense of making the barrels. The United States Consul at Liege, Belgium, describes the manufacture of the barrels made there as follows:

"The steel is imported from Westphalia; the iron is manufactured at Couvin. The factories receive their motive power from the River Vesdre. The ingot for the production of the curled damascus, which is the favorite design for fine guns, is composed of about thirty sheets of iron and steel, each having the thickness of 4 millimeters and a breadth of 120 millimeters, which form a square mass about 50 centimeters long, and are enveloped in a box of common thin sheet iron or by small wires at each end. The package thus prepared is put into a furnace and welded together at the lowest possible temperature. Too great a heat destroys the metal and yields a burned damascus, showing a small, if any, design. Each barrel receives 150 welding heats while being forged. If one of these welding heats is unsuccessful, the barrel may be a failure, either by the alteration of the damascene appearance or by a trace of the smallest imperfection in welding. Swedish iron is not used in forming curled damascus—only refined iron of Belgium, which gives a greater contrasting hue to the steel, and can be welded at a lower heat. After the ingot is welded it is rolled into small square rods of 7 to 9 millimeters, according to the design of the damascus desired.

"The rods are then drawn into ribbons by the smiths. The manipulation of these ribbons at high temperature is such that, in a length of one meter, 200 twists are shown. The twisting increases in pitch toward the thinner part of the barrel, which is first formed by winding the ribbons on a mandrel, and welding the coils together at the edges. The barrels are then bored out, straightened, ground to the proper thickness and polished. The joining of the barrels for double-barreled guns is a process requiring great care, as the value of the gun largely depends upon the accuracy with which this part of the process is executed. Each barrel is proved by a shooting test at the manufactory before it is placed on sale. It is said that the annual production of these barrels is 300,000, and that they are exported chiefly to England and the United States."

How's This?

We offer One Hundred Dollars Reward for any case of Catarrh that cannot be cured by Hall's Catarrh Cure.

F. J. CHENEY & CO., Props., Toledo, O.

We, the undersigned, have known F. J. Cheney for the last 15 years, and believe him perfectly honorable in all business transactions and financially able to carry out any obligation made by their firm.

WEST & TRUAX, Wholesale Druggists, Toledo, O.
WALDING, KINNAN & MARVIN, Wholesale Druggists, Toledo, Ohio.

Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Price 75c. per bottle. Sold by all Druggists. Testimonials free.

Hall's Family Pills are the best.

THERE are 119,000,000 old copper pennies somewhere. Nobody knows what has become of them, except once in a while a single specimen turns up in change. A few years ago 4,500,000 bronze two-cent pieces were set afloat. Three millions of these are still outstanding. Three million three-cent nickel pieces are scattered over the United States, but it is very rarely that one is seen.

"BROWN'S BRONCHIAL TROCHES" are of great service in subduing Hoarseness and Coughs. Sold only in boxes. Avoid Imitations.

There are more wrecks in the Baltic Sea than in any other place in the world. The average is one wreck a day throughout the year.

The President's Term of Office.

After every election of President an agitation is started for lengthening the term of office of the nation's chief magistrate, for the reason that a presidential campaign is distracting and depressing to business. This is always true of a presidential contest, but the interference with industry has been particularly marked in the campaign just closed. The usual uncertainty attending the outcome of a national election is sufficient to cause men of capital to hesitate before putting their money into new enterprises or enlarging existing ones. The disturbance to business has been unusually severe during the last summer, because the issue involved was one of tremendous importance to business interests. But the difference between this and other campaigns is simply one of degree. With every recurring presidential election business must suffer more or less.

These contests follow each other too closely. If elections took place less frequently business would be subject to fewer disturbances from this cause. Six years is not too long a term for the President of the United States to serve, especially if it be understood that he shall retire at the end of that time and not seek a re-election to the office. A six-year term would give two presidential elections in twelve years, instead of three, as now. A four-year term is too short. In the early days of the republic the objections were not so great to the shorter term. Now the very cost of presidential campaigns is an argument against having them more frequently than is necessary to enable the Government to keep in touch with the people.

In order to change the term of the President it would be necessary to amend the constitution of the United States, something which it is very difficult to accomplish. But the change is a very desirable one, especially for the business interests of the country, and it is to be hoped that before many years it may be brought about.

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SWEET PEA REVIEW,

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Best Varieties of PLUMS for Shipping:
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D'AGEN AND PETITE PRUNES. Fine stock.
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Many new varieties, etc.
Buds taken from bearing trees.
Address always,
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Clairac Mammoth PRUNE.
THE LARGEST AND BEST OF ALL PRUNES. ALSO
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General Assortment of Deciduous Fruit Trees. Free from Pests. Grown on light upland soil without irrigation, producing the best of roots.
Descriptive circular and price list mailed free
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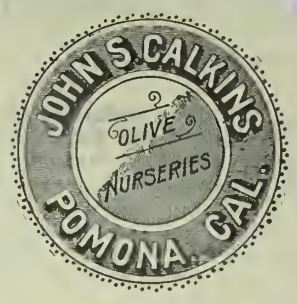
T. J. TRUE, Forestville, Sonoma County, Cal.

Olive Growers Handbook



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Clairac Mammoth, Imperial, Giant and Tennant Prunes.
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Best Early and Late Apples.
No Irrigation. Satisfaction Guaranteed.
Address R. W. BELL, SANTA ROSA, CAL.

Established 1876.
Myrobolan Nursery
NO IRRIGATION.
Offers for the season of 1896-7 a complete assortment of
Clean, Healthy, Non-Irrigated
FRUIT TREES.
Plums, Prunes and Apricots on the true Myrobolan Root my specialty. No cut-backs or held over tree, dug-stock. No insect pests.
JAS. O'NEILL, Haywards, Alameda Co., Cal.
Correspondence solicited.

The Arizona Everbearing Strawberry and the Best Varieties of Pomelo (or Grape Fruit) Known in This Country.
The Arizona Everbearing Strawberry was originated near Phœnix, Arizona, and brought to this country about three years ago by C. B. Hewitt of Pasadena. It has proven to be the most prolific, luscious and profitable Strawberry yet known on the Pacific coast. It bears fine large bright red berries, frequently measuring from 5½ to 6 inches in circumference, with a polish as if they were varnished. It is a continual bearer from April to January, resting only during January, February and March. The Seedless, Leonardy and Walters, Pomelo (or grape fruit)—the best varieties yet known in this country—were also brought from Florida by C. B. Hewitt four years ago, of which he has an orchard in bearing. Also very fine Nursery Trees of various varieties. For prices of Trees and Plants write the HEWITT FRUIT AND NURSERY CO., Pasadena, California.

PEPPER'S NURSERIES.
ESTABLISHED 1858.
A general assortment of deciduous fruit trees at reasonable rates.
French and Robe de Sergent Prunes on Myrobolan and Newton Pippin Apple in good supply.
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BERRY PLANTS, FRUIT TREES, SEEDS, ETC.
Everything in the line of Berry Plants; all varieties of strawberries, raspberries, blackberries, currants, gooseberries, mayberries, salmon berries, honey berries, coral berries, rose berries, buffalo berries, dewberries, cranberries, huckleberries, pineapple berries, lemonade berries, sugar berries, etc. Rare Fruit, Shade and Ornamental Trees. A Select Line of High-Grade Vegetable Seed. Catalogue Free to Any Address. S. L. WATKINS, Grizzly Flats, El Dorado Co., Cal.

NEW FRUITS.—Wickson, Red June, Willard, Normand, Orient, Bailey, Strawberry, Grand Duke, California Red and other new plums.
Ophir Apricot—Large, beautiful and extra early.
Dollar Strawberry—The best berry ever grown.
All stock of first quality, clean and healthy.
For prices, address
C. M. SILVA & SON,
Lincoln,.....California.

42-Acre Bearing Orchard.
ALL CHOICE FRUITS.
Best improved place in Yolo county, adjoining town of Winters. For Sale at a Bargain.
Also, 26 acres choice land, unimproved, For Sale Cheap.
Address A. B. ISH, Winters, Yolo County, Cal.

NAVEL ORANGE GROVES.
Owing to old age and inability to work, I would now sell a half interest in two or three Navel Orange Groves, near town, at much less than their value and on very easy terms to the right kind of a younger man, to work and manage them. An unequaled opportunity for an industrious man to secure a competence without risk. Would now sell a fine bearing grove near town at but one-half of its present value and on unusually favorable terms. Address
GEN. J. H. FOUNTAIN, Riverside, Cal.

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Patent Centrifugal, Steam and Power Pumping Machinery, Simplest, Cheapest and Best.
Orchard Trucks, Grape Crushers, Wine Presses, Wine Filters.
Up-to-Date Repair Shop for All Kinds of Pumps and Other Machinery.
It will pay you to get our prices.
I. L. BURTON MACHINE WORKS,
115-117 First St., San Francisco.

PUMPS!
For deep or shallow wells; power, windmill, hand Pumps; valves can be removed without taking pump out of the well. With my 5-in. double-acting deep well Power Pump I guarantee 10,000 gallons per hour. Send for circular. A. T. AMES, Galt, Cal.

Patrons of Husbandry.

Gala Day at Stockton.

To THE EDITOR:—Friday being the 28th auniversary of the foundation of the Grange, Stockton Grange celebrated Saturday by a fraternal gathering and a basket lunch at noon. A goodly number gathered around the bountifully spread tables, and jollity and a generally good time was indulged in for over an hour.

The special business of the day was the election of officers, but after the election of the Master further electing was postponed until our next meeting, in order to confer the right of initiation on two candidates, a lady and gentleman who desired to come in out of the cold world into the warm and affectionate fold of the Grange.

During the time devoted to the good of the Order quite an affecting event occurred. Our efficient Lady Assistant Steward, Sister Lizzie Root—on the eve of departure in company with her aunt, Mrs. J. W. Smith, for an indefinite visit to relatives in the distant State of Texas—was called to the station of the Worthy Master and informed that the Grange desired to censure and punish her and turned the sister over to the tender mercy of Sister W. L. Overhiser, who, after a short but eloquent address, presented her with a beautiful album as a token of esteem of the members of Stockton Grange. The sister was overcome by emotion and for some little time could only murmur her thanks.

Our Worthy Secretary, N. T. Root, was absent from his desk, being kept at home by a very severe cold; it being the second time during the ten years of his secretaryship, shows his attention to the duties of his office. Can any other Grange duplicate the record of our secretary? R.

Stockton, Dec. 6, 1896.

Election at San Jose.

San Jose Grange elected officers last Saturday for the coming year as follows: Worthy Master, G. W. Worthen; Overseer, B. H. Hurlbert; Lecturer, Mrs. A. R. Woodhams; Chaplain, Mrs. N. Lillick; Steward, J. Lee; Assistant Steward, E. M Ehrhorn; Lady Assistant Steward, Miss L. Woodhams; Treasurer, Cyrus Jones; Secretary, Mrs. M. J. Worthen; Gate Keeper, Edward Webb; Ceres, Mrs. H. L. Barnes; Pomona, Mrs. Hurlbert; Flora, Mrs. Pettitt; Trustee for three years, E. T. Pettitt; Organist, Miss Ada Ross.

The installation of officers will be held on Saturday, January 8th. The ceremony will be followed by literary exercises and a Harvest Feast.

Election at Two Rock.

Two Rock Grange has elected officers for the coming year as follows: Master, R. Andrews; Overseer, W. Church; Lecture, C. Nissorn; Steward, C. Hunt; Assistant Steward, J. C. Purvine; Chaplain, Sister Barlow; Treasurer, A. P. Martin; Secretary, W. D. Houx; Gate Keeper, E. Brady; Ceres, Sister W. D. Freeman; Pomona, Sister J. C. Purvine; Flora, Sister F. Andrews; Lady Assistant Steward, Sister Minnie Church; Organist, Sister Hubbell.

At the next meeting of Two Rock Grange the subject for discussion will be the Single Tax. Jan. 8th will be installation day, when W. W. Greer and District Lecturer Winans will be with us. C. NISSON.

Enterprise Grange Election.

Mr. Thomas Waite, District Lecturer, sends the RURAL the following report of the result of the election in Enterprise Grange: Master, E. J. Lynch; Overseer, T. Waite; Lecturer, J. A. Simonds; Steward, A. Plummer; Assistant Steward, U. S. Wilson; Chaplain, Geo. Wilson; Gate Keeper, Will Coy; Pomona, Leono Gunter; Flora, Ollie Birch; Ceres, Mrs. Simonds; Lady Assistant Steward, Lillian Waite; Organist, Belle Hass.

Every brother in the new list of officers is a Past Master of Enteprise Grange.

The Grange Field.

We have heard no late news from the Worthy Master of the State Grange. He intended, after making a few fraternal visits, to come home by way of the Southern route, and he is probably now somewhere between Washington and home. As it is his first trip in the Southern States, he will probably take time to look about as he travels, and it may be another week before he arrives at Sacramento.

Uncle George Loucks was among the callers at the RURAL office last week, looking hale and hearty and full of interest in Grange affairs. He reported Grange affairs very quiet in Contra Costa county, but he thought that, with better times which now seem close at hand, the affairs of the Order would look up. The next meeting of the Executive Committee, he said, would be held shortly after the return of the Worthy Master, and it would probably be at Santa Rosa. The most important matter to come before the committee will be in connection with the lectureship. There is no likelihood that Mr. Davis will alter his position in the matter, and it would be unjust to ask him to do it. What is wanted is a lecturer who can afford to serve for a uominal wage—and the man is not in sight.

Just as the RURAL goes to press this week, and too late for use in this number, comes the opening letter of Mr. Nisson's promised series on co-operation as it is practiced in Two Rock Grange. It will appear in next week's paper and will be followed by others in the series.

Yuba City Grange was to have held a feast and general jollification last Saturday, but no report has yet reached this office. The meetings of the Grange will be held during the winter in the canncry at Yuba City, the use of which has been donated.

Under another heading we give a list of the newly elected officers of Enterprise Grange. A curious fact in this connection is that all the brothers in the list are Past Masters of the Grange. If there has ever before, in the history of the Order in California, been a parallel to this curious fact, we have not heard of it.

Horse Owners! Try

GOMBAULT'S **Caustic Balsam**

A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from **Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING.** *Impossible to produce scar or blemish.*

Every bottle sold is warranted to give satisfaction. Price **$1.50** per bottle. Sold by druggists, or sent by express, **charges paid**, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland, O.

FOR SALE.

My Poland-China Boar, Ovation 30077.

Bred by S. H. Shellenberger, Ohio.

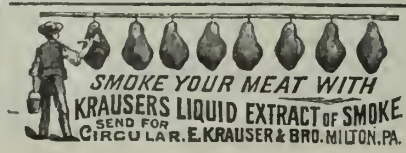
Ovation has won more premiums at our Cal. State Fair than any other hog ever exhibited here. Pigs of Aug. farrow for sale.

P. H. MURPHY, Perkins, Sacramento Co., Cal.

"Little Wonder."---Vise, Anvil, Drill, Pipe Clamp

Combined 4 Tools in one. Most useful for Farmers & Mechanics. Small space; always ready.

Catalogue *free*. Paul Heinrichsdorf, Cincinnati, O.



Breeders' Directory.

Six lines or less in this directory at 50c per line per month.

Horses and Cattle.

F. H. BURKE, 626 Market St., S. F. Holsteins, winners of every first prize State Fair this year, seven days' butter contest; Jerseys and Durhams competing. Berkshire Pigs.

JERSEYS The best A. J. C. C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

P. H. MURPHY, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle, Poland-China & Berkshire Hogs.

BULLS—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

PETER SAXE & SON, Lick House, S. F., Cal. Importers and Breeders, for past 21 years, of every variety of Cattle, Horses, Sheep and Hogs. Correspondence solicited.

JERSEYS AND HOLSTEINS, from the best Butter and Milk Stock; also Thoroughbred Hogs and Poul ry. **William Niles & Co.**, Los Angeles, Cal. Breeders and Exporters. Established in 1876.

Poultry.

PARKVIEW POULTRY FARM, F. P. Lowell, Prop., Sacramento, Cal. Breeder of high-class Black and White Langshans; Brown, Buff and White Leghorns, Barred Plymouth Rocks and Golden and Silver Wyandottes. Write for circular.

SANTA TERESA POULTRY FARM, Eden Vale, Cal. Barred Plymouth Rocks Black Minorcas, White Leghorns, Brown Leghorns. Fine Stock and Eggs for sale. Send for circular.

FOR SALE.—Trio Buff Cochin, 1st prem. cock, 1 & 2 hens; also 1st & 2d prem. Buff Leghorn cockerels, at State Fair. Box 740, L. E. Brainard, San Jose, Cal.

SEND FOR CATALOGUE OF CALIFORNIA'S greatest poultry farm. J. W. Forgeus & Co., Santa Cruz, Cal.

PURE BRED POULTRY AND EGGS. Carman Bros., San Jose, Cal. Barren eggs replaced.

WELLINGTON'S IMPROVED EGG FOOD for poultry. Every grocer and merchant keeps it.

MANHATTAN EGG FOOD, Red Ball Brand, at all grocers; or wholesale, Tillman & Bendel, S. F.

CALIFORNIA POULTRY FARM, Stockton, Cal. Send for illustrated and descriptive catalogue, free.

WILLIAM NILES & CO., Los Angeles, Cal. Nearly all varieties of Poultry, Dairy Cattle and Hogs.

Swine.

BERKSHIRE AND POLAND-CHINA HOGS, Best Stock; Thoroughbreds. Wm. Niles & Co., Los Angeles, Cal. Established in 1876.

TYLER BEACH, San Jose, Cal. Breeder of Thoroughbred Berkshire and Essex Hogs.

J. P. ASHLEY, Linden, San Joaquin Co., Cal. Breeds Berkshire, Poland-China and Essex Swine.

CHAS. A. STOWE, Breeder Improved Berkshire and Poland-China Hogs. Box 283, Stockton.

NEW MAMMOTH Poultry Guide for 1897. Something entirely new; almost 100 pages; contains lithograph plate of Fowls in natural colors; plans for poultry houses, remedies and recipes for all diseases, how to make Poultry and Gardening pay; only 15 cents. John Bauscher, Jr. Box 60 Freeport, Ill.

Any person prepared to go into the poultry business on a large scale can find a good opportunity by addressing

CHARLES D. POSTON,
Phœnix, Arizona.

WHEN YOU BUY, BUY THE BEST.

Trade **H.H.H.** Mark.

Horse Medicine!

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Will Remove All Callous Lumps, Spavins, Wind Galls, Ring Bone, Pole Evil, and Will Cure Sweeney, Scratches, Sore Shoulders, Distemper, Contraction of Leaders, Fistula, and All Blemishes on the Horse.

AS A FAMILY LINIMENT, IT IS THE BEST IN THE WORLD.

Do not be deceived by anyone who says he has as good or better liniment than the H.H.H., for he is an impostor and you will surely waste your money if you buy it. Insist on having the H.H.H. and no other. Examine every bottle to see if the name of Henry H. Moore is on label pasted on bottle, and the firm name is on outside cover of wrapper, before you buy it.

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H. H. MOORE & SONS,
Cor. Sutter St. and Miner Ave.,
STOCKTON.....CALIFORNIA.

Improved Pacific Incubator.

Absolutely Self-Regulating. Hot Water.

Send stamp for our catalogue of Incubators, Wire Netting, Blooded Fowls and Poultry Appliances generally. *Remember the Best is the Cheapest.*

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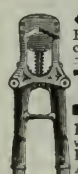
BUY NO INCUBATOR

and pay for it before giving it a trial. The firm who is afraid to let you try their incubator before buying it, has no faith in their machine. We will sell you ours **ON TRIAL. NOT A CENT until tried, and a child can run it with 5 minutes attention a day.**

We won **FIRST PRIZE WORLD'S FAIR** and will win you for a steady customer if you will only buy ours on trial. **Our large catalogue will cost you 5 cents and give you $100 worth of practical information on poultry and incubators and the money there is in the business.** Plans for Brooders, Houses, etc., 25c. N. B.—**Send us the names of three persons interested in poultry and 25 cents and we will send you "The Bicycle: Its Care and Repair," a book of 180 subjects and 80 illustrations, worth $5 to any bicycle rider.**

VON CULIN INCUBATOR CO.,
Box 298, DELAWARE CITY, DEL.



For a knife that will cut a horn without crushing, because it cuts from four sides at once get

THE KEYSTONE DEHORNER

It is humane, rapid and durable. Fully warranted. HIGHEST AWARD AT WORLD'S FAIR. Descriptive circulars FREE. A. C. BROSIUS, Cochranville, Pa.

California State Poultry Association and Kennel Club's
POULTRY AND BENCH SHOW
COMBINED.

STATE FAIR PAVILION, - - - SACRAMENTO, CAL.

POULTRY, Jan'y 6,7,8,9,10,11,12,13. BENCH SHOW, Jan'y 9,10,11,12.

ENTRIES POSITIVELY CLOSE JANUARY 1, 1897.

J. OTIS FELLOWS, Hornellsville, N. Y., Judge of all Classes.

President, J. A. SCHOLEFIELD, Hollister, Cal. Secretary, W. E. LADD, P. O. Box 220, Stockton, Cal.

SESSIONS & CO.,
Lynwood Dairy and Stock Farm

P. O Box 686, Los Angeles, Cal.

Our Berkshires and Poland-Chinas are again in the lead. At the State Fair, with strong competition, we won 16 premiums—8 firsts, 3 seconds, 5 sweepstakes—out of 19 entries. Choice pigs from the prize winners ready to ship at reasonable prices. Send for our new catalogue.

A HORSE suffering from Harness or Collar Galls-Scratches-Cuts-Speed Cracks- can be worked every day and at same time effectually cured by the use of **BICKMORE'S CALL CURE.** We guarantee such results. Equally good for Chapped, Cracked Teats in cows or external sores in man. Send 10 cents for sample. Enough to cure one horse. Fully guaranteed. **BICKMORE CALL CURE CO.-Box 708 OLD TOWN MAINE.**

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Dec. 9, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	232,115	2,977,321	2,114,575
Wheat, ctls	438,824	7,159,568	4,791,455
Barley, ctls	128,656	3,553,989	1,907,013
Oats, ctls	30,872	332,982	333,338
Corn, ctls	12,972	96,493	87,337
Rye, ctls	1,415	111,256	18,392
Beans, sks	15,812	387,522	319,197
Potatoes, sks	28,929	505,927	485,578
Onions, sks	3,118	74,410	62,248
Hay, tons	1,923	77,063	75,931
Wool, bales	1,604	34,614	37,813
Hops, bales	228	6,354	8,174

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	64,636	2,125,568	1,458,279
Wheat, ctls	428,472	6,734,099	4,744,213
Barley, ctls	176,381	2,825,869	1,312,661
Oats, ctls	3,245	16,173	10,435
Corn, ctls	749	5,869	10,212
Beans, sks	1,558	232,258	193,670
Hay, bales	1,790	25,645	22,305
Wool, lbs	....	4,856,112	7,666,096
Hops, lbs	439	568,647	673,889
Honey, cases	14	1,459	5,782
Potatoes, pkgs	1,156	37,010	59,109

Grain Freights and Charters.

It is difficult to quote charter rates on grain ships at present, owing to the inactivity prevailing. Ship owners refuse as a rule to accept figures now obtainable. On the other hand, exporters cannot see their way clear to pay other than low figures. For desirable iron ships urged to engagement, it would be difficult at this date to secure much over 17s 6d per ton to Cork, U. K., for orders, usual option. To charter freely, it would probably be necessary to pay about £1 2s 6d. Several ships have been laid on lately to load on account of British owners.

Charters.

French bark Villede Rouen, 1125 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 10s, net—chartered prior to arrival.

British ship Muncaster Castle, 1992 tons, grain and merchandise to London direct—laid on.

British ship Pendragon Castle, 2399 tons, grain and merchandise to Liverpool direct—laid on.

British ship Bacchus, 1250 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 8s, net—chartered prior to arrival.

British ship Belford, 1771 tons, wheat to South Africa—chartered in England.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive.
1896	61,908	54,481	207,816
1895	84,834	19,997	246,682

Flour.

Market continues firm, and is more apt to be still less favorable to buyers than to decline materially during the balance of the current season. Stocks in the State on the 1st inst. were reported at 111,078 barrels, being about 29,000 barrels more than at corresponding date a year ago, but in some previous years supplies were much larger than at present. Considering requirements and the probable output of mills for the next six months, there is not likely to be much flour carried over into the new cereal year.

Superfine, lower grades	$3 00@3 25
Superfine, good to choice	3 30@3 50
Country grades, extras	4 25@4 50
Choice and extra choice	4 50@4 75
Fancy brands, jobbing	4 75@5 00
Oregon, Bakers' extra	4 25@4 50
Walla Walla, Bakers' extra	4 25@4 50

Wheat.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	5s 3d@5s 4d.	7s 6d@7s 7d.
Freight rates,	26¼@27½s.	17½@20s.
Local market,	$0.98¾@$1.01¼	$1.47½@1.55

The prices above are for spot lots of standard No. 1 California in Liverpool, and for good to choice shipping in this city.

STOCKS OF GRAIN IN STATE.

The San Francisco Produce Exchange gives the following totals of the stocks of grain and flour remaining in the State on Dec. 1st for three years named.

Dec. 1st.	1896.	1895.	1894.
Flour, bbls	110,078	82,107	73,950
Wheat, ctls	7,495,380	10,941,760	13,040,330
Barley, ctls	3,008,980	4,072,560	1,965,230
Oats, ctls	189,360	193,220	213,590
Rye, ctls	81,340	125,500	63,985

As compared with December 1, 1895, Wheat shows a decrease of 3,446,,380 ctls; Barley, 1,063,580 ctls; Oats, 3,860 ctls, and Rye, 44,160 ctls. Flour shows an increase of 27,971 bbls. The stock of wheat on the 1st inst. was reported considerably less than for any corresponding date hy the Exchange.

LOCAL STOCKS OF GRAIN.

Stocks of grain in Call Board warehouses on November 1st and December 1st:

Tons—	Dec. 1st.	Nov. 1st.
Wheat	*111,324	146,588
Barley	7,691	8,135
Oats	5,039	3,117
Corn	638	561

*Including 54,603 tons at Port Costa, and 52,874 tons at Stockton.

Stocks of wheat in Call Board warehouses on 1st inst. show a decrease of 35,274 tons for month of Nov. A year ago there were 214,263 tons wheat in Call Board warehouses.

The semi-annual statement of the San Francisco Produce Exchange, giving its report of the visible supply of cereals in the State on the 1st inst., was issued this week. The stock of wheat is given at 375,000 short tons. The quantity is hy no means large, hut some thought it would prove still smaller. The ships now here and engaged for the wheat fleet have a carrying capacity of ahout 90,000 tons. The vessels in harbor disengaged have a carrying capacity ahout the same as the engaged tonnage in port. This makes provision for nearly one-half the visible supply. In addition to this, the ships now headed this way are good for 300,000 tons. It will he seen there is no probability of any scarcity of wheat ships this season. The export demand continues good and the market has heen in the main rather favorable to the selling interest, although speculative values suffered some declines. A large steamer cleared this week with a full cargo of wheat for Coronel, Chili, something unusual, even more so than shipments to Australia and Africa. The charterers have the privilege of ordering the ship elsewhere upon her arrival at Chili, but the dispatching of the vessel to that country is evidence that there is likelihood of the wheat being required there. Call Board prices in this center declined ahout 2c Monday, owing to lower prices East. There was little change Tuesday, but speculative values were again lower Wednesday, with a further decline of about 2c per bushel in Chicago, and Liverpool off ahout 1d. per cental. Spot market closed steady for choice to select wheat, but was rather weak for the lower grades.

California Milling	$1 52½@1 60
Cal. No. 1 shipping, alongside	1 47½@1 50
Oregon Valley	1 47½@1 50
Walla Walla Blue Stem	1 37½@1 52½
Walla Walla Club	1 37½@1 50

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, --@—.

May, 1897, delivery, $1.61@1.54⅞.

Wednesday, at regular noon session of Call Board, December wheat sold at $—; May at $1.54⅞@1.57.

Barley.

The statement of stocks remaining in the State on December 1st shows the quantity of barley to be somewhat larger than had heen generally anticipated. The total amount reported, 150,000 tons, cannot be considered heavy, however, and has heen exceeded in many previous seasons. A year ago there were 200,000 tons reported on hand, and at the end of the season stocks were cut down to 50,000 tons. Should the same quantity be used during the balance of this season stocks would he wholly wiped out, but such a reduction is almost impossihle, as it is a seeming necessity to carry some over each year. Home requirements during the next six months are apt to absorh about 100,000 tons, which is the quantity shown to have been used locally during the last half of the season of 1895. If the quantity ahove stated is used locally, and exports foot up only half what they did for latter part of previous season, there will only be 25,000 tons on hand at end of the season, which would be lighter than for any previous year since 1891. A large proportion of the barley now offering is under choice, which operates against its moving freely.

Feed, No. 1 to choice	87½@90
Feed, fair to good	85 @87½
Brewing, No. 1 to choice	92½@97½
Chevalier, No. 1 to choice	1 05@1 15
Chevalier, No. 2	87½@92½

CALL BOARD PRICES.

On San Fraucisco Call Board prices for No. 1 feed harley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, —@--c; May, 1897, delivery, 98½@93½c.

Wednesday at regular noon session of the Call Board, December feed sold at ——; May feed at 93¾@93½c.

Oats.

The supply of oats in the State is given at 9500 tons, as against 9660 tons a year ago, and 10,700 tons two years ago. Stocks are mostly of very ordinary quality and include scarcely any Surprise or Gray. Choice Surprise are salable at decidedly stiff figures. Market is firm, in fact, for choice to select of every variety, and it is the exception where common to medium grades are crowded to sale at any noteworthy concessions from full current rates for the same.

White Oats, fancy feed	1 35 @1 40
White, good to choice	1 22½@1 30
White, poor to fair	1 05 @1 15
Gray, common to choice	1 20 @1 30
Milling	1 25 @1 35
Surprise, good to choice	1 50 @1 57½
Black Russian	1 15 @1 35
Red	1 10 @1 30

Corn.

Market is amply stocked with Large Yellow, as compared with the limited demand, which is principally local. Prices for above variety favor buyers. Business in Large White is of the same slow order as previously noted, and market remains against sellers. There is a moderate movement in Small Yellow at comparatively good figures, with no very heavy offerings of latter sort.

Large White, good to choice	82½@ 87½
Large Yellow	80 @ 85
Small Yellow	1 00 @1 05

Rye.

There were 4000 tons reported in the State on 1st inst., and 6000 tons a year ago. Demand is not brisk at present, and market is rather easy in tone.

Good to choice, new	1 02½@1 07½

Buckwheat.

Buyers appear less eager to operate than for some weeks preceding, and market in consequence is not quite so firm as previously noted.

Good to choice	1 25 @1 30
Silverskin	1 30 @1 35

Beans.

The *Producers' Price Current* of New York thus reports the hean market in that center, the prices given being per 60-pound bushel:

Receipts of beans have continued quite large, and with trade extremely dull, market has ruled weak, and favoring buyers, though sellers have been able to prevent further reduction in values. Choice Marrow and Red Kidney have been held at $1.40 and while here and there an outside lot has been picked up lower, there has been no general shading from this price; export demand was light, especially for Red Kidney. Medium which are in small supply have been held at $1.15, and $1 05 has remained the general trading price for choice State Pea; some Michigan Pea in bags have been offering freely at $1.00. White Kidney have continued scarce and firm. Black Turtle Soup wanted, but few if any offering. Yellow Eye continue scarce and tone very firm. California beans, both Lima and Lady Washington, have had a very moderate movement, though held about steady in price,—$1 40 for Lima, and $1.10 for Lady Washington. Demand for green peas has been extremely slow, and while values have been sustained throughout the week, outside figures are becoming exceptional.

According to the semi-annual stock statement of the San Francisco Produce Exchange, there were 700,000 sacks of beans in the State on Dec. 1st. This is 142,000 sacks more than reported a year ago, and is far in excess of the quantity reported for any previous season. The present statement gives evidence of being approximately correct, hut the bean statistics of former years are known and generally admitted to be quite faulty, so they are of little or no use for comparison. The local market has not shown much activity the current week, and changes in quotable values have heen in the main unimportant, hut the tendency has been in favor of the buyer. Values for Pinks have slightly advanced.

Pea, fair to good, 100 lbs	$1 30 @1 50
Small White, good to choice	1 30 @1 40
Lady Washington	1 20 @1 30
Butter, small	1 25 @1 40
Butter, large	1 40 @1 60
Pinks	1 15 @1 25
Bayos, good to choice	1 50 @1 60
Reds	1 30 @1 40
Red Kidneys	2 00 @2 25
Limas, good to choice	1 90 @2 05
Black-eye Beans	1 15 @1 30
Horse Beans	1 00 @1 10
Garbanzos, large	2 50 @2 75
Garbanzos, small	1 50 @1 75

Dried Peas.

Trading in this product has heen lately so insignificant that values have heen little more than nominal. Fortunately, offerings have been quite light.

Green Peas, California	$1 25 @1 40
Niles Peas	1 00 @1 25

Hay and Straw.

Weakness is still the prominent feature of the hay market, and there is little or nothing upon which to base any hope for the better in the near future. Never has the market heen in more unsatisfactory shape for hay of nearly every description. Alfalfa of prime quality has sold fairly well, with tolerably light stocks of this variety. Straw is offering at same low range of prices previously quoted.

Wheat	7 50@10 50
Wheat and Oat	7 00@10 00
Oat	6 00@ 8 50
Barley	6 00@ 8 50
Clover	6 00@ 7 50
Stock Hay	4 50@ 5 50
Alfalfa	6 00@ 7 50
Compressed	6 00@ 9 50
Straw, ₱ bale	35@ 50

Wool.

Buyers and sellers are too far apart in their views to admit of much business being done at present in this center. Relatively higher figures have been lately paid in the interior than have been ohtainable here, and this has operated against local activity, holders not feeling justified in selling for less than the cost of other wools laid down here from interior points. That there will be any special firmness developed in wool values until there is some favorable tariff legislation, is highly improhable.

SPRING.

Northern California free	— @—
Northern defective	— @—
San Joaquin Foothill, good to choice	— @—
San Joaquin, 12 months	— @—
San Joaquin and Southern, 6 months	— @—
Nevada, as to condition	7 @ 9
Oregon Valley, select	9½@11
Oregon Valley, low grade	8 @ 9½

FALL.

Humboldt and Mendocino	7 @ 9
Northern California free	7 @ 9
Northern defective	5½@ 7
Middle Counties free	6 @ 7½
Middle counties defective	5½@ 6½
San Joaquin and Southern	3½@ 5

Hops.

New York advices by mail give the following concerning the Eastern hop market:

The market here has ruled rather quiet the past few days and just a trifle weaker undertone is possibly apparent in the under grades, but on choice grades the feeling is fully as firm and confident as heretofore and it would certainly appear as if the confidence of holders were well founded. Latest English advices give the shortage in the English crop as fully 60,000 bales below that of last year with the quality of both English and German hops reported poorer this year than last. The exports of hops so far th s year are 3,000 bales short of last year. Advices from the interior report less movement than a fortnight or so ago, but holders are strong in their views and some business has been done at 15@15¼c. for choice and 12c. for medium grades. We hardly feel warranted in changing quotations but it is doubtful if any strictly choice either States or Pacific Coast could be obtained except at a material premium.

There is not much doing, and dealers are sparing no pains to cry the market down. Advices from abroad, however, do not indicate any noteworthy weakness for choice to select qualities, such heing in limited stock and in very good request. To move ordinary grades at this date, the acceptance of tolerahly low figures would be necessary. Arrivals from all Pacific coast points are now of light proportions.

Fair to choice, 1896 crop	9 @12

Millstuffs.

Market for bran and middlings has shown a firm tone most of the time since last review. Middlings of high-grade were in very light stock. Rolled barley tended in favor of buyers. Milled corn was without quotable change.

Bran, ₱ ton	13 50@14 50
Middlings	16 50@21 00
Barley, Rolled	19 50@20 00
Cornmeal	20 00@20 50
Cracked Corn	20 50@21 00

Seeds.

Mustard seed market shows steadiness, with no large offerings in this center and no evidences of any heavy quantities remaining in the interior. Flaxseed is selling fairly well, with improved demand and only moderate offerings. Alfalfa has been moving to the interior in a small way for seeding purposes and has heen commanding steady rates.

	Per ctl.
Mustard, Yellow	2 00@2 25
Mustard, Trieste Seed	3 00@3 25
Mustard, Wild Brown	2 25@2 50
Flax	1 30@1 50
	Per lb.
Canary	2¼@2¾
Rape	2¼@2¾
Hemp	3¼@3½
Alfalfa, Utah	6¼@6½

Bags and Bagging.

Market is showing the same quiet condition as last noted. Business in this department is invariably inactive at this time of year. Values throughout are without quotable change.

Grain bags, 22x36, spot	4½@—
Wool sacks, 4 lb	28 @—
Wool sacks, 3½ lb	26 @—
Gunnies	9 @—
Bean bags	4 @ 4¼
Fruit sacks, cotton	5½@ 7½

Hides, Pelts and Tallow.

Hide market has shown a little more ease, quotations heing slightly lower. Pelts have been selling at unchanged figures. Tallow market has developed no new or important feature since last review.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all

kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	8 @ —	7 @ —
Medium Steers, 48 to 56 lbs	7 @ —	6 @ —
Light Steers, under 48 lbs	6 @ —	5 @ —
Heavy Cow Hides, over 50 lbs	6 @ 6½	5 @ 5½
Light Cow Hides, under 50 lbs	6 @ —	5 @ —
Wet Salted Kip	6 @ 7	5 @ 6
Wet Salted Veal	6 @ 7	5 @ 6
Wet Salted Calf	7 @ 8	6 @ 7
Dry Hides	12 @13	9 @10
Dry Kip and Veal, 11 to 16 lbs	9 @10	7 @ 8
Dry Calf, under 4 lbs	— @15	— @10

Horse Hides, large dry	75@ —
Horse Hides, large, wet salted	75@1 00
Horse Hides, medium	50@ —
Horse Hides, small	25@ —
Colts' Hides	25@ —
Pelts, long wool, per skin	50 @60
Pelts, medium, per skin	40 @50
Pelts, short wool, per skin	20 @35
Pelts, shearling, per skin	10 @15
Deer Skins, best summer	20 @25
Deer Skins, good medium	15 @20
Deer Skins, thin winter	7 @ 9
Elk Hides	7½@ 9
Tallow, good quality	3 @—
Tallow, No. 2	2½@—
Goat Skins, perfect	20 @35
Goat Skins, damaged	10 @20
Kid Skins	5 @—

Poultry.

Most of the poultry lately received has shown poor condition, and on this account has moved slowly at low prices. Many retailers refuse to handle this poor stock at any figure. Even street hawkers do not care to purchase great quantities, although much of it is obtainable at low figures. Considerable of this kind of stock has been condemned lately by the market inspector, and peddlers do not want to take the risk of making losses in this manner. All good to choice stock moved readily at the prevailing quotations. Faucy qualities brought higher figures than below quoted.

Turkeys, dressed, per lb	16@ 18
Turkeys, live hens, ℔ lb	14@ 15
Turkeys, live gobblers	14@ 15
Hens, Cal., ℔ doz	3 50@5 00
Roosters, old	4 00@4 25
Roosters, young, (full-grown)	4 00@4 50
Fryers	3 50@3 75
Broilers, large	3 25@3 50
Broilers, small	2 50@3 00
Ducks, young, ℔ doz	4 50@5 50
Ducks, old	4 00@5 00
Geese, ℔ pair	1 50@2 00
Goslings, ℔ pair	—@—
Pigeons, Old, ℔ doz	1 00@—
Pigeons, Young	1 25@1 50

Butter.

Values for fresb butter have been tending downward, with the production on the increase of near-by creameries and dairies, or those bordering on San Francisco bay. Retailers are operating as lightly as possible, having no confidence in current values being maintained. Furthermore, there are many retailers still carrying considerable packed butter, and they are urging this to sale, wishing to effect a speedy clean-up of the same, and are thus requiring less fresb tban ordinarily. No great break in values for desirable qualities of fresh is anticipated, however, until after the holidays.

Creamery extras, ℔ lb	24 @25
Creamery firsts	22½@23
Creamery seconds	21 @22
Dairy select	22 @—
Dairy seconds	15 @17
Dairy, soft and weedy	— @—
Mixed store	11 @13
Creamery in tubs	16 @17
Pickled roll	16 @17
Dairy in tubs	15 @16
Firkin, Cal., choice to select	15 @16
Firkin, common to fair	11 @12

Cheese.

Market continues to be very lightly stocked with all descriptions, and is firm throughout, more especially for choice to select new, with supplies of this sort exceedingly ligbt. Favorite marks are commanding an advance on quotable rates.

California fancy flat, new	12 @—
California, good to choice	10 @11
California, fair to good	9 @10
California, "Young Americas"	10 @13

Eggs.

This market has developed additional weakness since last review. It is customary for values for this product to go down with a rush immediately after the mid-winter holidays. It matters not how few eggs there are offering, high prices in January are wholly out of the question four years out of five. Aware of this, buyers are taking on the scare this season a little earlier than usual. There are not many Eastern eggs now coming forward and not many expected, but this does not help the situation. Strange as it may seem, when Eastern eggs are in heaviest stock the home product commands the highest price. Importers of Eastern make special efforts to keep up values, so as to have a good market for their own holdings.

California, select, large white and fresb	35 @35
California, select, irregular color & size	27½@30
California, good to choice store	24 @26
California, common to fair store	20 @23
Oregon, prime	— @—
Eastern, as to section and grading	24 @28
Eastern, seconds	16 @18
Duck eggs	25 @—

Honey.

A carload of white extracted, including some of very fancy quality, arrived the past week from Inyo county. For strictly fancy comb 12c is asked. Water-white extracted is scarce and firm. For dark-colored honey, however, either comb or extracted, there is very little demand.

White Comb, 1-℔ frames	10 @11
Amber Comb	7½@ 9
Extracted, White Liquid	5½@ 6
Extracted, Light Amber	4¼@ 4¾
Amber Colored and Candied	3¾@ 4¼
Dark Tule	2¾@ 3

Beeswax.

There is not much doing in this article, and, to find free custom, lower figures than have been lately current would have to be accepted.

Fair to choice, ℔ lb	24 @27

Live Stock and Meats.

Hogs are in decreased receipt and are selling to a little better advantage. Market for beef and mutton is moderately firm at the quotations.

Beef, 1st quality, dressed, net ℔ lb	5½@ 6
Beef, 2d quality	4½@ 5
Beef, 3d quality	3½@ 4
Mutton—ewes, 5@5¼c; wethers	6 @—
Hogs, hard grain fed, medium size, fat	3⅛@ 3¼
Hogs, large bard	3⅛@ 3¼
Hogs, soft and feeders	— @—
Hogs, country dressed	4 @—
Veal, small, ℔ lb	5 @ 6
Lamb, spring, ℔ lb	6½@ 7

Vegetables.

As regards most kinds of vegetables, the mid-winter season is now on to its full limit. In a few weeks the new season will open in the southern part of the State. Several kinds, including tomatoes, are now arriving in a small way from Los Angeles; but, with this vegetable hardly out of stock from gardens around the bay, offerings from the south are not receiving much attention. Prices for onions of desirable quality have been tending upward, with supplies on the decrease. Peas and string beans are scarce and high, with arrivals principally from southern California.

Beans, Garden, ℔ lb	6@ 9
Beans, Lima, ℔ lb	—@ —
Cabbage, choice garden, ℔ 100	50@ 60
Cauliflower, ℔ doz	40@ 50
Cucumbers, Alameda, large box	—@ —
Egg Plant, ℔ box	—@ —
Garlic, ℔ lb	1½@ 2
Mushrooms, Buttons, ℔ lb	30@ —
Mushrooms, Wild, ℔ lb	10@ 20
Okra, Dried, ℔ lb	10@ 12½
Onions, Red, ℔ cental	—@ —
Onions, Yellow, good to choice	45@ 55
Peas, Green, ℔ lb	5@ 8
Peppers, Green Chile, ℔ box	40@ 50
Pepper, Bell, ℔ large box	50@ 75
Rhubarb, ℔ box	75@ 1 00
Squash, Cream, ℔ box	25@ 35
Tomatoes, River, per large box	—@ —
Tomatoes, Los Angeles, ℔ box	50@ 1 00

Potatoes.

Arrivals of potatoes were mainly from Sacramento river section and other near-by points, and were not heavy in the aggregate. Business was largely in fair to medium qualities, with values for these tolerably well sustained. Choice to select Salinas or fine Oregon Burbanks were offered very sparingly, and buyers of this class of stock found it necessary to pay comparatively stiff prices. Sweets were in moderate supply, selling at about same range as previous week.

IN SACKS.

Early Rose, River, ℔ cental	45@ 55
Peerless, River	—@ —
Reds, River	45@ 55
Garnet Chile, Mission	—@ —
Burbanks, River	35@ 50
Burbanks, Salinas	60@1 10
Burbanks, Oregon	50@1 00
Sweet Potatoes	75@1 25

The Fruit Market.

Fresh Fruits.

In the way of deciduous fruits apples are now by long odds making the most conspicuous showing. Stocks of these, however, cannot be termed very heavy. There are more Eastern offering than domestic product, and the imported are selling at about as wide a range of values as the home article. The Eastern are principally the Ben Davis variety, and for some of these in poor condition $2 per barrel is a full figure, while for choice $4.50 is asked. For select Spitzenberg from the East $5@5 50 per barrel is demanded. For the best Pacific coast apples $1.25 per 60-pound box is a full quotable figure, and only fine Spitzenberg in four tiers, or equally desirable stock, can be relied on to bring this price in a regular way. Specked and otherwise faulty apples are selling down to 50c per box, and even less when very inferior.

Pears are now offering in only moderate quantity, and it is the exception where the quality is such as would be naturally sought after by the most fastidious custom. Where the quality is really select, extreme figures are more readily realized than are lowest prevailing prices for some inferior stock. Winter Nelis of fine quality command at present the best prices.

Grapes continue to bo offered, and, considering the lateness of the season, there is still a considerable quantity on market. They are mainly under choice, however, and, with the weather rather cool, there has not been mucb call for them, even at comparatively low figures.

Persimmons are in decreased stock, but they continue in rather poor request, and fail to command very good prices.

Cranberries are on market from Washington, offering at $6.50 per barrel, and from Oregon, at $2 50 per box. Eastern cranberries are ranging from $7@9 per barrel, as to quantity and quality and section received from.

Apples, fancy, 4-tier, per box	1 00@ 1 25
Apples, good to choice, 50-℔ box	75@ 90
Apples, fair to good, 50-℔ box	60@ 75
Apples, common, ℔ 50-lb box	35@ 50
Apples, Eastern, ℔ bbl	2 00@ 5 00
Pears, Winter Nelis, per box	50@ 1 25
Pears, other kinds, ℔ box	40@ 75
Persimmons, ℔ box	40@ 65

Berries.

Blackberries, ℔ chest	—@ —
Cranberries, Eastern, ℔ bbl	7 50@ 9 00
Cranberries, Oregon, ℔ box	2 50@ —
Currants, Red, ℔ chest	—@ —
Raspberries, ℔ chest	—@ —
Strawberries, Longworth, ℔ chest	—@ —
Strawberries, Large, ℔ chest	—@ —
Whortleberries, ℔ lb	—@ —

Grapes.

Black, ℔ box	40@ 65
Cornichon, ℔ box	40@ 75
Verdel, ℔ box	40@ 60

Dried Fruit.

The following review of the Eastern dried fruit market is received under recent date from New York:

The market is in about the same position as reported last week. There bas been a fair jobbing demand at about steady prices, but to move large lots inside figures have had to be accepted owing to the low terms exporters and large operators can make direct with makers. Sliced apples scarce and nominal. Chops and cores and skins bave bad a fairly active demand and rule firm. Raspberries, in few hands and generally held above quotations. Huckleberries steady. Hardly any blackberries, cherries or peaches offering and quotations entirely nominal. California fruit meets a good demand in ranges quoted.

Apricots, Cal. Royal, bxs., 1896, per lb	9 @11½
Apricots, Cal. Royal, bags, 1896, per lb	8 @10½
Apricots, Cal. Moorpark, 1896, bxs	12 @16
Peaches, California, 1896, peeled, per lb	12 @15
Peaches, Cal., 1896, unpeeled, lb	6½@10
Prunes, Cal., 1896, as to size	4 @ 8

There is no improvement to note in the condition of the local market, trade being of an exceedingly slow order, with prospects of continuing so far at least a few weeks to come. Fortunately for the producing interest, most kinds are in limited supply, and with anything like a good spring trade, there will be little or no difficulty experienced in effecting a clean-up. In the absence of any noteworthy business, quotations remain nominally as previously noted. If buyers were in the field, they would find it necessary to pay full current figures, while if offerings were crowded to sale at this date lower prices would have to be accepted. Prunes are in larger supply than any other variety, and lack of firmness is most pronounced on this description, althougb there is no actual decline to record in quotable rates. Apples cured on this coast are in slim stock and are rather steadily held, but offerings of Eastern are operating against the bome article. Good Eastern evaporated rings can be laid down here at 4¾@5c, and are being jobbed out at 5¼@5½c. For fancy Eastern evaporated 6½@7c is asked. Tuesday's Panama steamer took 24 tons dried fruit, mostly prunes for Germany.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per ℔	7½@ 8
Apricots, Royal, fancy	9 @10
Apricots, Moorpark	10 @12½
Apples, in boxes	5½@—
Nectarines, White	5 @ 5½
Nectarines, Red	4 @ 5
Peaches, unpeeled, prime to choice	5 @ 6
Peaches, unpeeled, choice to fancy	6 @ 7
Peaches, peeled, in boxes	11 @12½
Pears, peeled and sliced	4 @ 5
Pears, unpeeled Bartletts, halved, fancy	6½@ 7
Pears, halved, unpeeled Bartletts	4 @ 5
Pears, quartered, unpeeled Bartletts	4 @ 5
Plums, pitted	4 @ 5
Prunes, in sacks, 4 sizes	3½@—
Prunes, in sacks, small sizes	2½@—
Prunes, Silver	7½@ 8

COMMON SUN-DRIED.

Apricots, ordinary	5½@ 7
Apples, sliced	2½@ 3
Apples, quartered	3 @ 3¼
Figs, Black	2½@ 3
Figs, White	3 @ 4
Plums, unpitted	1½@ 2

Raisins.

There is not much doing, but market is moderately firm in tone, with stocks of quite light proportions. Some jobbers report being able to purchase this week at slight concessions from recent asking figures, but sellers' of this sort are not numerous. Holders in need of ready cash might shade rates slightly, but there are no evidences of noteworthy pressure to realize. Transfers are reported for January delivery at full current rates, showing that some buyers believe values are more apt to harden than to decline after the holidays.

Imperial Clusters, per box	2 50@ 3 00
Dehesa Clusters, per box	2 25@ 2 50
Fancy Clusters, per box	1 40@ 1 60
Boxes, London layers, 20-℔ box	1 20@ 1 25

(Usual advance for fractions.)

Loose Muscatel, 4-crown, ℔ lb	5½@ —
Loose Muscatel, 3-crown	4½@ —
Loose Muscatel, 2-crown	3½@ —
Sultanas	5¾@6
Seedless Muscatel	4½@5
Dried Grapes	3 @ —

Citrus Fruits.

The orange market is showing an easier tone than last noted for the home product, both Navels and Seedlings. There were increased

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receipts, but the easier feeling was not so much due to this fact as it was to the condition of the fruit, the oranges being mainly under-ripe. The cool weather also operated against the sale of such stock. Japanese and Mandarins were in good supply, and being ripe and sweetish, as well as cheap, were given the preference by many buyers. Lemons were in more liberal supply than was warranted by the demand. Values were without quotable change, but market lacked firmness, especially for other than choice to select. Limes were offered at same figures last quoted, but did not meet with much custom.

Oranges—Wash. Navels, ℔ box	2 50@ 4 00
Cal. Mediterranean Sweet	—@— —
Cal. Seedlings	1 50@ 2 50
Cal. Valencias	—@— —
Japanese, Mandarin, small box	75@ 1 00
Mexican	—@— —
Grape Fruit, ℔ case	5 00@ 6 00
Lemons—Cal., select, ℔ box	2 50@ 3 00
Cal., good to choice	1 50@ 2 00
Cal., common to good	1 00@ 1 50
Limes—Mexican, ℔ box	4 00@ 5 00
Cal., small box	75@ 1 25

Nuts.

Transactions in almonds and walnuts are mainly in a jobbing way on holiday account. There are fairly liberal quantities still offering, more particularly of almonds, but the proportion of choice to select is small. Peanuts are meeting with fair custom, and both Eastern and local product are being steadily held.

California Almonds, paper shell	8 @ 9½
California Almonds, soft shell	6 @ 8
California Almonds, standard	5 @ 6
California Almonds, hard shell	3 @ 4
Walnuts White, paper shell	9 @10
Walnuts White, soft shell	8 @ 9
Walnuts White, Cal., hard shell	6 @ 7
Chestnuts, Cal. Italian	8 @ 10
Peanuts, Cal., fair to prime	4 @ 4¾
Peanuts, Eastern hand-picked	5 @ 6
Pine Nuts	9 @10

Cal. Dried Fruits at New York.

NEW YORK, Dec. 5.—Apricots, bags, 9@11c; peaches, peeled, bags, 14@15c; unpeeled, bags, 7@9c; prunes, four sizes, nominal, 5⅛@5¼c; raisins, 2-crown, L. M., 4¾c; do 3-crown, 5⅜@5⅝c; do 4-crown, 6½@7¼c; do Loudon layers, $1.40@1.50; do clusters, $1.75@2; almonds, soft-shell, 8½@10c; do paper-shell, 11@13c; walnuts, standard, 8@8½c; do soft-shell, 9½c.

NEW YORK, Dec. 9.—Apricots, bags, 9@11c; peaches, peeled, 14@15c; unpeeled, 7@9c; prunes, four sizes, nominal, 5⅛@5¼c; raisins, 2-crown sizes, L. M., 4½@4¾c; 3-crown sizes, 5⅜@5⅝c; 4-crowns, 6@6¼c; London layers, $1.45@1.50; clusters, $1.75@2; almonds, soft-shell, 9½@10c; paper-shell, 11@13c; walnuts, standard, 8@8½c; soft-shell, 9½c.

New Small Coins.

Within the next few months the material used in making several of our smaller coins may be changed. Congress recently directed the Secretary of the Treasury to make experiments with several new metals with a view to changing those now in use. These experiments are now about completed, and the result of them will be presented to the next Congress.

Of all the countless possible alloys to be obtained from copper, tin, nickel, and aluminum, in different combinations, perhaps fifteen or twenty may be found fairly satisfactory. It is possible that one or two of these may advantageously be brought into use for general coinage.

Aluminum, which has never yet found a place in the currency of any nation, is to be worked up into trial coins. It is also to be given a chance in new alloys. Aluminum is a metal of which but little has been known until recently, and it has been found useful in so many ways that a sort of popular idea prevails that it would be good for coins. Chief among its advantages would be its very light weight. Cents made of it could readily be distinguished from coins of the same size by this remarkable lightness alone.

The experiments at the Mint will include different combinations of nickel, copper and zinc, forming the alloys known under the head of German silver; copper and tin, which produce bronze; aluminum and copper, which make aluminum bronze. German silver has been used for coins by one of the small South American States, and proved fairly adapted for the purpose. Bronze is commonly used for coins of small value. It is doubtful if aluminum bronze in any form will be found acceptable, as it is hard to work and has a yellow, brassy appearance, resembling gold, which is to be avoided in all coins of small denominations.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING NOVEMBER 24, 1896.

571,993.—PUMPING MACHINE—F. H. M. Davis, Los Angeles, Cal.
571,949.—BOTTLE STOPPER—G. Koebler, S. F.
572,029.—VENCING DEVICE—G. O. Ranson, Portland, Or.
571,936.—ARM REST FOR BOOKS—A. J. Soto, Martinez, Cal.
572,038.—SEWER TRAP—J. T. Titus, S. F.
572,080.—SPEEDING DEVICE—H. G. Wilshire, Los Angeles, Cal.

NOTE.—Copies of U. S. and Foreign patents furnished by Dewey & Co. in the shortest time possible by mail or telegraphic order). American and Foreign patents obtained, and general patent business for Pacific Coast inventors transacted with perfect security, at reasonable rates, and in the shortest possible time.

IT is commonly estimated that green wood, when cut down, contains about 45 per cent of its weight in moisture, but in some cases wood cut down in winter is said to hold more than 40 per cent of water at the end of the following summer. Kept for several years in a dry place, wood retains from 15 to 20 per cent of water, while that which has been thoroughly desiccated will, when exposed to air under ordinary circumstances, absorb 5 per cent of water in the first three days, and will continue to absorb it until it reaches from 14 to 16 per cent as a normal standard—the amount fluctuating above and below this standard, according to the state of the atmosphere. It has been found that, by exposing green wood to a temperature of 212° F., the loss of weight equaled 45 per cent; and, further, on exposing small prisms of wood ½ inch square and 8 inches long, cut out of billets that had been stored for two years, to the action of superheated steam for two hours, their loss of weight was found to be from 15 to 45 per cent, according to the temperature of the steam.

Notice of Shareholders' Meeting.

The annual meeting of the stockholders of the "Grangers' Bank of California" (a corporation) will be held on TUESDAY, the 12th day of January, 1897, at 10 o'clock P. M., at the office of said Bank in the California Safe Deposit and Trust Co.'s building, corner of California and Montgomery Sts., in the City and County of San Francisco, State of California, for the election of Directors and transaction of such other business as may be submitted for their consideration. H. M. LARUE, President.
Dated December 9, 1896.

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(Sole Agents and Manufacturers, U. S. and CANADA.)
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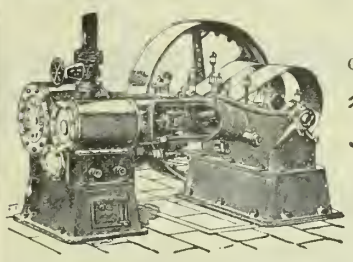
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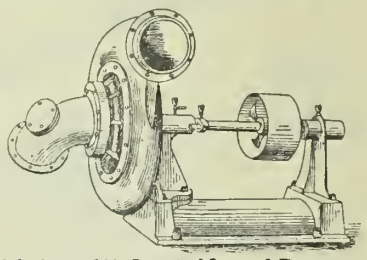
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For Irrigation, Drainage, Dredging, Mining, Etc. Capacities from 50 to 50,000 Gallons Per Minute.
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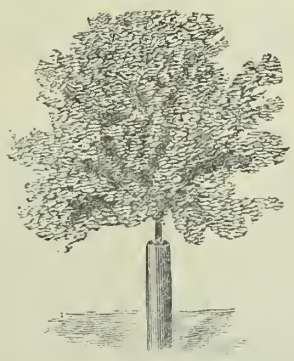
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FIRST PRIZE—Medal and Diploma—California Midwinter International Exposition.
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For testimonials from parties who are using them, send for descriptive circulars.
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Is a sure cure for Colic, Horse Ail, Spinal Diseases, Spavins, Ring Bone, Cockle Joints, Contracted and Knotted Cords, Curbs, Splints, Sweeney, lameness of all kinds, etc. Price, 50 cts. a bottle. Sold by most dealers; a sample bottle will be sent by mail for three 2-cent stamps for postage.
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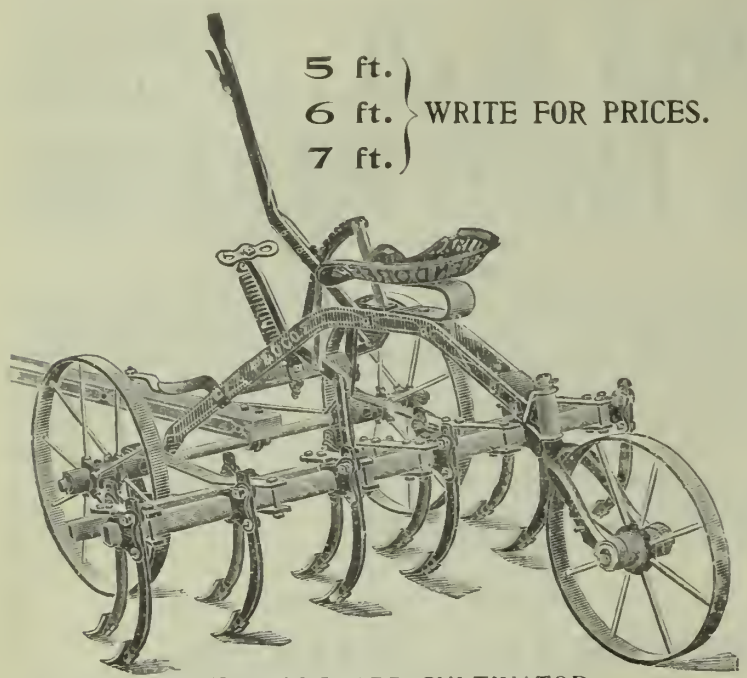
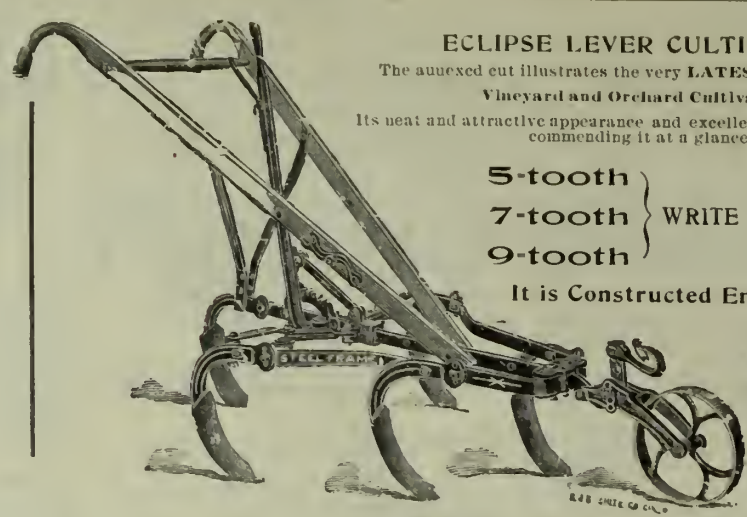


5 ft.
6 ft. } WRITE FOR PRICES.
7 ft.

CANTON ORCHARD CULTIVATOR.

Combined Hand, Foot and Power Lift.

This Cultivator has been Thoroughly Tested in all Conditions and is Acknowledged to have More Desirable Features than any other Orchard Cultivator.



ECLIPSE LEVER CULTIVATOR.

The annexed cut illustrates the very **LATEST** improvement in **Vineyard and Orchard Cultivators.**

Its neat and attractive appearance and excellent working qualities commending it at a glance.

5-tooth
7-tooth } WRITE FOR PRICES.
9-tooth

It is Constructed Entirely of Steel,

And is fitted with the finest quality of **Hardened Shovels.** All the different styles of Teeth and Horse Hoe Attachments used on the celebrated IRON AGE Cultivator can be used on this and price is the same.

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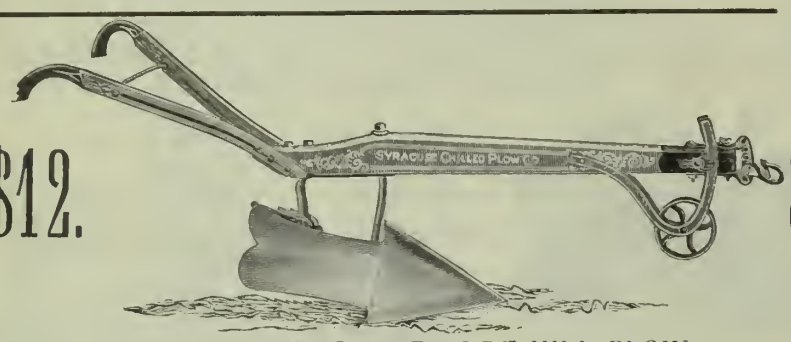
VEHICLES IN GREAT VARIETY. ✦ ✦ ✦ ✦ ✦
✦ FARMING IMPLEMENTS OF EVERY DESCRIPTION.

$12.  $12.

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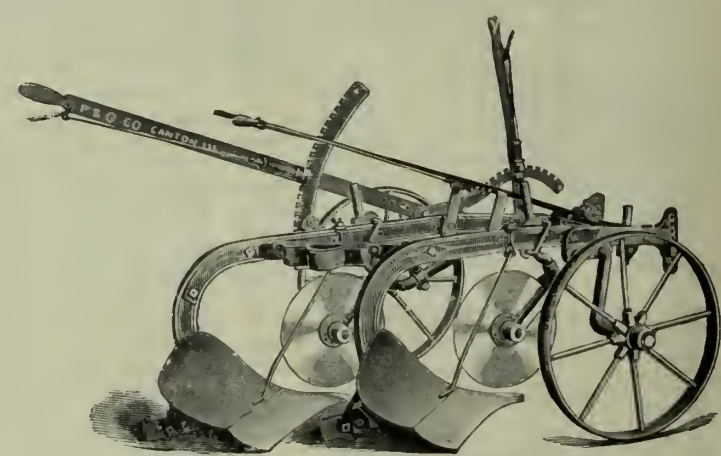

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Made Any Size up to 12 Feet.

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"San Jose Cultivator"

Is the very best, all-around, up-to-date cultivator in the field . . .

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Spray & Whitewash Pump.

The cut herewith illustrates our new spraying pump, the "Champion," and its adaptability to the work for which it has been especially designed. As will be seen from the illustration, the pump is very complete and strong. It is perfectly double-acting and has a brass-lined cylinder. The motion of the piston is horizontal. The handle is so arranged that the leverage is very powerful, and the movement is easy and natural. The air chamber is unusually large, admitting of the continuous discharge necessary for good and thorough spraying.

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THE STOCKTON REVERSIBLE GANG PLOW.

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SHEET IRON & STEEL PIPE

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Hydraulic, Irrigation and Power Plants, Well Pipe, Etc., all sizes.

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Iron cut, punched and formed, for making pipe on ground where required. All kinds of Tools supplied for making Pipe. Estimates given when required. Are prepared or coating all sizes of Pipes with Asphaltum.

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THE
PACIFIC RURAL PRESS
AND CALIFORNIA FRUIT BULLETIN.

Vol. LII. No. 25. SAN FRANCISCO, SATURDAY, DECEMBER 19, 1896. TWENTY-FIFTH YEAR. Office 101 Market Street.

This Department is to be kept in the Library

Blackberry Growing.

California blackberry growers will be interested to see the accompanying illustrations of the most approved Eastern practices and compare them with local methods. We take the engravings from the last Year Book of the Department of Agriculture, where they are discussed by W. A. Taylor, the assistant pomologist. When grown in the hill method

BLACKBERRY TRAINING UPON TRELLIS OF POSTS AND A SINGLE WIRE.

for cultivating both ways the plants are set in squares 6x6 or 6x8 feet, according to the vigor and habit of the variety. The engraving shows this method, with the high stake which is used to tie up the canes in a bunch so as to allow the passage of horse and cultivator. The other engraving represents the trellis system, where the plants are set about 4 feet apart in the rows and the rows 7 feet apart to admit cultivation one way only, for the canes are then trained to a single wire stapled to posts at suitable distances. The single-wire plan is not only cheaper but it affords all the support necessary, and as the wire is placed rather high it admits the stirring of the ground in the row with hand tools until the canes cover the space, as they are soon apt to do. The trellis system allows more plants to the acre, for at the dimensions given there will be 1556 plants to the acre on the trellis, 1210 in hills 6x6 feet and 680 in hills 6x8 feet.

Much of the success of the blackberry plantation, providing the plants are in good moist or irrigated soil, depends upon the care the plants receive. There should be thorough thinning out of the canes, removing those which have done their work and reducing the number of the new canes, especially in the removing of all that are slim and weak. If this is not done the plantation soon becomes a jungle, almost impossible of cultivation and the gathering of the inferior fruit very difficult. Pinching back the new canes in summer to force out laterals is also important in keeping the plants low and handy for cultivation and picking. But many never find time for this and rely upon the winter clearing-out and cutting back of the canes, which are retained for fruiting. This practice is successful, and a plantation well handled in this regard will remain profitable for a number of years.

The variety shown in the engravings is the Early Harvest, a variety of rather recent origin but one of the best, as shown by Californian as well as Eastern experience.

THE weather storm has been particularly heavy in the southern part of the State. A telegram of Tuesday from Los Angeles says: "The people of this city thought a small-sized cloudburst had struck the town this morning. It began raining at 10:30 o'clock in the forenoon and by noon 50 of an inch of water was on the ground, making a great deluge for the season of 2.56 inches. Up to 2 o'clock one inch had fallen and it was still drizzling at intervals. The gutters could not carry it off rapidly enough and the streets were flooded in places. At the corner of Fourth and Spring streets, the heart of the business part of the city, the water was two or three inches deep. Telephone lines were breaking off and on all day. Railroad men report rain general at outside points. The storm came just in time as the crops are in and dry weather for the past two weeks made the farmers gloomy. It is still raining to-night." Similar reports come from San Diego and Santa Barbara, so it is evident that the whole southern region has had a good drenching.

A SUGAR FACTORY with a capacity of 100 tons of beets daily, consuming the product of 500 to 10,000 acres, will expend annually in the neighborhood of $70,000 for wages and payment for beets, fuel, etc. Such a plant costs about half a million dollars and furnishes directly or indirectly steady employment to 500 men the year around, exclusive of the beet growers. A very important feature is the water supply for the manufacturing purposes. A factory as described above will require 4,000,000 gallons daily.

AT a meeting in Hanford last week the Central California Bee Keepers' Association adopted the following preamble and resolution by unanimous vote:

WHEREAS, The California Bee Keepers' Association has, on two previous occasions, decided that only twelve pounds have been started or extracted honey cases; and

WHEREAS, The California State Association, at its annual meeting of February 1896, adopted the same;

WHEREAS, Committees were appointed to place these resolutions before the different Boards of Trade; be it

RESOLVED, That we again renew our former resolution, that on extracted honey cases, with new tops, only twelve pounds be deducted as tare, with or without certificates, at the option of the purchaser.

SMITH BROS.' BARN, 610 Brannan St., S. F., was burned Monday night with 250 tons of hay.

San Joaquin Citrus Fair.

The citrus fair at Fresno was opened on Monday and, in spite of a succession of rain storms, it has attracted a large attendance. The several counties of the upper San Joaquin are making great efforts to outdo each other, and the result of the competition is a magnificent display of citrus products.

The citrus fair of the San Joaquin valley originated in the Fresno county citrus fair held by the Chamber of Commerce last January. A fair had been previously held in Porterville and the members of the Chamber of Commerce concluded that it was time that Fresno paraded its golden apples of the Hesperides, and a very creditable display was made—one satisfactory to all concerned.

During the last summer it was decided that another fair should be held at this time, and the Chamber of Commerce invited the Hundred Thousand Club to join with them in the enterprise. At once a joint committee was appointed. The committee conferred with growers of citrus fruit throughout the valley at once, inviting them to take part, and they responded so generously and so great was the demand for space that the committee found it had an elephant on its hands.

The Supervisors of Tulare and other counties made appropriations to aid county displays, and when the demand for space was figured up it was found necessary to erect a pavilion 140 by 160 feet, and that the necessary expense would be $5000 instead of $3000 as at first estimated. The excursion was advertised throughout the State from Los Angeles to the bay, and arrangements have been made for excursion rates for visitors on all lines leading into Fresno.

THE HILL SYSTEM OF BLACKBERRY GROWING WITH USE OF HIGH STAKES.

SPEAKING of the sugar beet industry the Expositor says: "There is one fact that must not be overlooked in the attempts to stimulate more interest in raising sugar beets, which is this: The most progressive and prosperous localities in the State to-day where the ravages of hard times are least heard, are in those districts where the farmers plant sugar beets."

SANTA BARBARA will not yield her usual crop of olives this year, but the season's product will be of unusual size and quality.

PACIFIC RURAL PRESS.

Office, No. 220 Market St.; Elevator, No. 12 Front St., San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Any subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

Our latest forms go to press Wednesday evening.

Registered at S. F. Postoffice as second-class mail matter.

ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, December 19, 1896.

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Woven Wire Fence—Kitselman Bros., Ridgeville, Ind.....399
Olive Trees—Frank Kunz, Sacramento, Cal.....399
Fruit and Ornamental Trees—Fancher Creek Nursery, Fresno ...399
Fruit Trees—Howland Bros., Pomona, Cal.....399
All-Steel Harrow—Roderick Lean Mfg. Co., Mansfield, Ohio. 395
Seeds—D. M. Ferry & Co., Detroit, Mich.....399
St. Jacob's Oil.....395

The Week.

Weather and Crops.

Generally speaking, the rainfall of this past week was timely and welcome, for the previous spell of north wind had withdrawn a great deal of moisture from the soil. This was especially the case in upland regions; but in the moister parts of the Sacramento and San Joaquin valleys the farmers would have been glad if the rains had held off till after New Year. In these districts there must for a little time be a let-up in the field work, which has been in fast and furious progress since the last previous rain. There is going to be an enormous planting of grain. The area already plowed is large, but as yet but little more than a beginning has been made in the work of seeding.

The following data for the week ending 5 A. M. Wednesday, Dec. 16, 1896, are from official sources, and are furnished by the United States Weather Bureau for the PACIFIC RURAL PRESS:

CALIFORNIA STATIONS.	Total Rainfall for the Week	Total Seasonal Rainfall to Date	Total Seasonal Rainfall Last Year to Same Date	Average Seasonal Rainfall to Date	Maximum Temperature for the Week	Minimum Temperature for the Week
Eureka	2.22	16.55	11.72	12.47	62	42
Red Bluff	3.80	9.42	5.34	8.08	56	38
Sacramento*	.88	5.50	3.83	5.26	63	40
San Francisco	2.04	8.80	3.00	6.73	63	49
Fresno	.52	3.54	.41	1.81	70	34
San Luis Obispo	1.30	5 97	3.60	....	80	36
Los Angeles	.84	3.83	1.35	6.83	80	44
San Diego	.66	2.73	1.31	2 58	74	48
Yuma	.04	1.14	.32	1.43	76	42

* Up to 5 P. M. Dec. 15; furnished by J. A. Barwick.

Santa Clara Valley About Closed Out for the Season.

The shipment of prunes from Santa Clara county for the season aggregates 27,000,000 pounds, and the warehouses are now pretty much cleared out. Stocks are so light that orders cannot now be filled when special sizes are required. In conversation with a reporter last week, Col. Philo Hersey said:

We have only a few carloads left at our warehouse. Of the stock remaining on hand there is nothing to speak of besides prunes. Of these there are five carloads of the sizes over 100. Then there are a few of the sizes between 50 and 60. The stock of 40's is entirely exhausted. At the Exchange a number of packers are kept busy putting up 25 and 50-pound boxes to fill orders for various points in the Eastern trade. The packages are neat and attractive in appearance, with appropriate printing matter in colors accompanying them, and a large quantity of the fruit remaining on hand will reach the market in the most desirable shape, so far as advertising the product and the county are concerned. Although there is a lack of demand at present in a wholesale way, the retailers are doing well. Stocks are comparatively light and are fast going into consumptive channels. Goods are firmly held at present quotations. The four sizes of prunes bring 5½ cents. The sizes from 40 to 50 are quoted in San Francisco at 5½ cents, but they will bring 6 cents if good in appearance in accordance with their size. At present the movement of fruit is confined to jobbing wants and assorted cars to Eastern and Northern points. Apricots are scarce, peaches and pears in good demand, but not abundant. At present the supply of peaches is very light and the price a shade higher. It is believed that continued cold weather will stimulate the demand for dried fruits.

Italian Orange, Lemon and Nut Crops.

A Washington dispatch of the 15th inst. quotes the following from an official report of Italian crops:

An estimate of the coming Italian orange crop is supplied to the State Department by United States Commercial Agent Huntington at Castellamare. He says the outlook for the crop of Sorrento oranges promises well as to keeping quality, size and color. The quantity will be about two-thirds of an average crop. The first cut commenced November 15th. Prices opened at from $1.15 to $1.54 per box, and the first shipments will reach New York in time for the Christmas trade.

The new crop of lemons exceeds that of last year and the quality is very fine. Gathering will begin in May.

The walnut and filbert crops are short in quantity, but excellent in quality. Mr. Huntington dwells at some length upon the evils that have resulted from the system practiced by American fruit exporters last season of making large advances of money to Sicilian shippers in order to secure consignments, which, he says, has injured sound commerce and caused great loss to Americans.

The Horse Show.

It is to be said in criticism of the horse show that it was not so much a show of horses as of equipments and fashions in their use. Apparently no effort was made to give it a Californian character. The chief anxiety on the part of both managers and exhibitors was to imitate the New York show, and to this end there had been a large importation of prize winners direct from Madison Square Garden. Prizes won in San Francisco with imported stock signify nothing, excepting that somebody has put up a lot of cold California coin for horses bred and trained elsewhere. In another year there ought to be a series of classes and prizes for horses bred and trained in this State. It would also add greatly to the interest of the show if a class were arranged for the California type of saddle horses and for expert horsemanship. The State is celebrated for its saddle stock, but only the Eastern, or part, type of hunter or saddle hack had any chance at the Mechanics' Pavilion.

The Dried Fruit Trade.

There is no need to be disheartened because just now there is a let-down in the Eastern demand for dried fruit. It is not due to any generally unfavorable condition but proceeds from the fact that the market is well supplied from early purchases and must have a little time to work off its accummulations. Some time before the election, while prices were abnormally low, Eastern buyers stocked up heavily, their notion being that after election, values would advance. This turned out to be a sound theory, and the buyers of sixty days ago have all made a profit in the better prices which have since prevailed. They have been able to sell at figures lower than have been quoted in California and still make a profit; and, to a considerable extent, the comsumptive demand in the East is now being supplied after this fashion. But there is a limit to the stocks on hand, and it will not be long before the Eastern dealers will have again to turn to the original source of supply. The stocks still on hand in California are comparatively light, and every pound is certain to be called for before the season is past.

While there is a distinct turn in the tide of business affairs throughout the country, it must be remembered that there is still very little money in the hands of the people, generally speaking. Confidence has been restored and there is plenty of money for investment; but there has not yet been time for the mass of the people to get much benefit from it. Again, although some factories have started up, a vastly greater number are still idle or working only on partial time. The manufacturing industry of the country will not get into full activity until the present tariff law shall be superseded by a law which will preserve the American market for American-made goods. Until then—until the working class, which is the great consumer of our dried fruits, are profitably employed—the fruit market will not be at its maximum.

Gleanings.

AN organization of farmers has been formed at Healdsburg to promote the sugar beet industry.

UP to the 12th inst. the season's shipments of oranges from the southern counties aggregated 23,239 boxes.

TWENTY-TWO young mules were shipped from Chico to the Hawaiian Islands this week to be used in the sugar plantations of that region.

A VISALIA letter states that hay buyers are around wishing to contract for 1897 grain at $1 per cental. They are doing no business at this rate.

THE new fruit growers and shippers' association which, according to the Redlands *Citrograph*, controls the bulk of the orange trade, will do business on a f. o. b. basis only.

OROVILLE *Register*: It is not believed that the foreclosure suit against A. T. Hatch will in any manner affect the big orchards he is interested in this country. The stock will be sold and the other members of the company will in all probability go right ahead with the business as usual.

HANFORD *Sentinel*: N. W. Motheral of this county was on the Committee on Tariff Resolutions at the State convention of fruit growers; D. T. Fowler and W. W. Phillips of Fresno were also members. We are glad to see these free trade gentlemen get in line with the interests of this State now that the election is over.

COLUSA *Sun*: "The hog industry has brought a large revenue into Colusa county. It is a lucrative business to raise hogs for sale even at low prices. Buyers will always be around and offer competitive prices for hogs and if one of them does not take those raised by the farmer another one will, you may rely upon that. Ask our bankers what large sums of money have been brought into the county by those who have sent their hogs out to market, and the answer will astonish you."

WATSONVILLE *Pajaronian*: "Christy & Wise have leased the Beach Cattle Co.'s feeding yards, near the mouth of the Salinas river, and have fitted it for the feeding of a band of 20,000 sheep. They are going to use pulp as the principal article of the bill of fare, and they expect to get that band of sheep in first glass market condition within a short time. Beet tops and beets have been demonstrated to be without a superior as fattening food for sheep, and it is believed that success will follow the feeding of pulp."

AT San Francisco on Tuesday twenty-nine yearlings from the Rancho del Paso were sold at auction for the gross sum of $6110, an average of $210. Of these nine were colts, whose average price was $305, the fillies in most cases going cheap. The notable feature of the sale was the small price the Salvator youngsters brought, but one of the get bringing over $150. H. Eugene Leigh bought the pick of the sale, a strapping chestnut colt by imported Islington, brother to Isinglass, for $500, and Mr. Grey, a well-known English cross-country rider, paid $460 for a handsome bay colt by Midlothian-Glendair. E. Corrigan, Colonel D. M. Burns, "Daggie" Smith and "Pat" Dunne were among the other buyers.

THE following pungent remark, which we reprint without fully understanding its implications, is from the Redlands *Citrograph*: "Wonder if the Exchange manager is not East making a deal with an outside firm for the turning over of all the Eastern business to parties who know something about business methods? The Exchange has made such a failure of doing business East that something must be done or the thing will go all to pieces. The Exchange manager has always said that f. o. b. sales could not be maintained—since he obtained control of a car line—and it looks as if the thin disguise of "selling delivered" was now going to be dropped and the entire business turned over to a straight commission house. We are patiently watching developments."

BAKERSFIELD *Californian*: "Mr. E. W. McCutchen has kindly supplied the *Californian* with the following figures as to the crop of prunes referred to a short time since in these columns: The orchard consists of 6¼ acres of French prunes and is located in section 29, 30, 27. There were gathered 82,487 pounds of dried fruit, of which 25,865 pounds were sold at 2½ cents a pound and 56,622 pounds at 3 cents a pound. The total receipts were $2335.28. The entire expense, including 500 trays costing 30 cents each, or $150, were $750. The net proceeds were therefore $1585.28, or about $245 an acre. Besides the sales there are about 1500 pounds of choice fruit left on hand. These prunes were sold to the Phœnix Packing Company of Fresno, and the president of that organization said that he was familiar with prune orchards all over the State, particularly in the Santa Clara valley, but he never saw anything to excel this."

POMONA *Times*: "Messrs. Thatcher & Son this season have pickled just about 8000 gallons of olives—1400 less than in 1895. They have sold their entire pack to James Hill & Sons Co. of Los Angeles. This firm is doing much to popularize the California olive in the Eastern cities. They make the curious statement that our very best olives—that is, those possessing the largest amount of oil—are the least popular in the Eastern States. This fact is explained on the ground that they are accustomed to eating the spongy foreign article which contains but little oil, and which most Californians would not take as a gift if obliged to eat them; but this obstacle to popular favor will soon be overcome. Hill & Sons Co. will bottle most of the Thatcher pack for the Eastern trade. This year the Messrs. Thatcher built twelve large cement vats for their pickling process, which of course means that they have determined to make the curing of olives a part of their fruit curing business."

SANTA ANA correspondence: There is no industry in southern California as young as that of celery culture that has assumed such flattering proportions as this industry has in Orange county. Only about four years ago D. E. Smeltzer of Kansas City came out to this State, and, hearing of the wonderful peat lands, soon found his way out to them. He obtained some of the land and began to prepare it for planting celery. Then there were no drainage ditches in that part of the county and in many places in the peat land a man could scarcely keep above ground because it was so marshy, and horses could not be used at all. It was necessary, therefore, to cultivate the ground with hoes, and men were employed for that purpose. In after years the ground was cultivated by teams, but then and now horses have to wear large, flat, wooden shoes, on the worst of the land, to keep from swamping. Mr. Smeltzer made an unqualified failure of his experiment the first year, sinking about $4000 in his venture; but not daunted by the loss, he went ahead. Profiting by the experience he had had, he planted more heavily than ever, with the result that his profit the next year was more than his loss the year before. From that time on the celery industry has been booming.

THE Colusa *Sun* reads the following wise lecture to the people of California: "Our people should not sit still because wheat went up. It might go down again, and, if it does not, it will bring more to the farmers if they can sell it as a surplus, than if it has all to go for food and raiment. Every hog raised, every chicken and egg for the table as well as those exchanged to fill the larder, makes the wheat money swell in the farmer's pocket. Wheat, even at the present price, converted with chickens at 20 or 25 cents is a better money getter than sold as wheat. Until the farmer raises all he can consume of everything, the price makes but little difference to him. His chickens at 10 cents each are just as good for food as if they sold at 50 cents. If he will hold all he needs and only sell the surplus, he will soon see it is worth while to raise all his home food. In a land like ours, where grain is plenty and we do not have to heat our henneries to protect our chickens from freezing, and where our grain crop is never a total failure, it does seem ridiculous that Eastern chickens can be brought across the continent and sold at a lower price than we can furnish them. Besides, with but little attention, they can be raised the entire year round. There is no reason really in California that eggs might not also fill our markets at all seasons, thus keeping at home an immense sum of money and keeping it in circulation."

From an Independent Standpoint.

At the Horse Show in San Francisco last week there was a fine exhibition of beautiful and highly trained animals; but the whole affair wore a curiously foreign and artificial aspect. English fashions prevailed in every detail. The horses were bobtailed, the carriages were mostly imported or of foreign type, the functionaries of the show, from the highly decorated ring master to the smallest groom, were English; and even the exhibitors in their clothes, walk and talk were as English as they could make themselves. American types of horses were decidedly not in it. For the American trotter in harness there was, indeed, one small prize; but for the American combined saddle and light-harness horse, admitted by real horse lovers to be the most beautiful and useful of the equine families, there was no class. But a single representative of the breed was present, and, as a concession, his owner was permitted to exhibit him in the ring once or twice "between acts." Our native California horses have a world-wide fame, especially for their serviceableness under saddle, but the managers of the Horse Show, apparently, had never heard of the breed, or of any other kind of saddle horse save the English-type hunter or park hack.

The system of judging was purely arbitrary, and whoever did not conform to English fashions in the points of mutilating his horses by sawing off their tails, of his own and his groom's attire, and in the minute details of his equipage, had no show at all. One exhibitor lost a prize, not from any fault in his team, but because he drove in "afternoon" instead of "morning" dress. Another blue ribbon was lost because, upon critical inspection, it was found that one of his grooms was budding a mustache. The judges, like everything else, were imported for the occasion, and the memory of their English clothes and English accent and English standards of judgment is a thing forever to be held dear in the world of fashionable horsiness.

The manifest silliness of all this mass of cheap and more or less vulgar affectation might easily be pardoned if it did not expose a really mischievous social tendency. The spectacle of a considerable part of the community, and that part a class of large influence, so slavishly obedient to foreign standards and fashions as to hold in contempt the habits and fashions of its own country, is, indeed, a thing to make the judicious grieve. It clearly marks a lack of patriotic spirit among the class for which this country has done most in the way of material fortune. The American who affects English manners, clothes and speech, and who is never so pleased as when somebody mistakes him for an Englishman, is a discredit and a shame to his country; and so far as his personal influence goes, he is a corruptor of our national life. And, if he could only know it, such a creature is as little of an Englishman as he is an American. Whatever may be the faults of the English character, flunkyism is not among them. The Englishman is always an upholder of his own national manners and ideas and is never, by any chance, an imitator of the fashions of those who are to him foreigners. In his own country, or separated from it by half the world, he still maintains, and is proud to maintain, his character as a Britou. And if he sometimes goes to the extreme of arrogance in the general "blarstedness" of his manners, he is still to be respected as a man who holds to patriotic traditions and who respects the land which gave him birth. In all his qualities, the true Englishman is the precise antithesis of the cheap American anglomaniac; and his contempt for his flunkyish imitator is usually very wholesome and profound.

We are fast getting to a point in this country when something is needed to reawaken and develop the national spirit. The rich class needs to be impressed with the fact that the security of property rests upon the integrity of the Government, and with a sense of responsibility in the matter of its maintenance. Another large body of our people needs to learn the lesson that the Government belongs to the people and not the people to the Government. Still another class—the class which was so prominently in evidence at last week's Horse Show—needs to be reminded that it is stupid, silly and unpatriotic to borrow its standards and manners from abroad. A foreign war would, in a national sense, be about the best thing that could happen to us, for it would divert into useful chanuels a vast amount of energy now wasted in useless money-getting and in even more useless frivolities; and it could not fail to inspire a new appreciation and love of our own country. After a season of fighting to maintain the old flag, there would be more disposition to value our national institutions and to respect ourselves.

Nothing is more certain than that a resolution acknowledging the independence of Cuba and granting belligerent rights to the insurgents, will pass the Senate if it can be brought to a vote. No other subject attracts so much attention in or out of Congress; and upon no other is there such universal concert of sentiment. It is believed that American recognition would speedily terminate the war favorably to the Cubans; and since this is the end desired in this country there seems no reasou why we should not act. We certainly owe uothing in the way of civility to Spain. She was prompt to recognize the confederacy and in all ways and at all times she has been eager to show her hatred of this country. President Cleveland is opposed to recognition of Cuba because, in view of his course in the Venezuelan matter, it would put him in an embarrassing position; but he surely cannot expect the policy of this country to halt for so paltry a motive. The people sympathize with the Cubans; they heartily wish them good fortune in their struggle against tyranny, and they see no sound reason why they should not make their sympathy effective.

Mr. Goldwin Smith, the well-known Canadian writer, has recently been discussing a question considered in this column two weeks back, namely, what is the most dangerous element in American life? He concludes, as did the STANDPOINT, that it is the idle and luxurious rich. Wealth, he says, can no longer rest on a supposed ordinance of the Almighty distributing the lots of men. It can no longer rest on unquestioning belief in natural rights. It is called upon to justify its existence on rational grounds. It must make itself felt in beneficence. It must avoid that ostentation of luxury which is galling to the hearts of the poor. It must remain at its post of social duty. Continuing, he says:

> If rich Americans in the hour of peril, instead of remaining at their posts of social duty and doing according to their measure what Peter Cooper did, continue to crowd in ever-increasing numbers to the pleasure cities and haunts of Europe, or spend their money at home in selfish luxury and insidious display, a crash will come and ought to come. The French aristocracy before the revolution left their posts of social duty in the country to live in luxury and frivolity at Versailles. The end was the burning of their chateaux. American plutocrats who leave their posts of social duty for the pleasure cities of Europe will have no reason to complain if their chateaux some day are burned. Unfortunately, warnings are seldom taken by individuals, and almost never by a class, each member of which looks to the other members to begin.

Pith of the Week's News.

SMALLPOX is epidemic in Japanese ports—especially in Kobe.

THE vote for woman suffrage in California foots up about 170,000.

IN a six-day bicycle contest at New York last week the winner covered 1910 miles.

ONE of Broker Henry Clews' customers made $250,000 in the New York wheat pit last week.

EX-PRESIDENT HARRISON says he is not a candidate for the Senatorship or for any other office.

THE Chicago City Council has decreed a 4-cent street car fare. The railway companies will fight it.

COL. JOHN R. FELLOWS of New York, widely known as an orator and a Democratic leader, died last week.

AT Gridley last week Homer Stuck, employed on the Bonslett ranch, died from the effects of a mule kick.

THE German steamer Salier went down off the Spanish coast last week and all on board—between 400 and 500 persons—were lost.

IN preparation for his retirement form office Mr. Cleveland has bought a handsome house in New York and a country place at Princeton, N. J.

INTEREST in the airship has about died out. There are still those who stoutly affirm its existence, but the general judgment is that it was a pure fake.

IT appears that the Frenchmen who control the Panama Canal Company are still hopeful of putting it through. It is said that 3000 men are steadily employed.

ADAMS BARRETT, justice of the peace at Dutch Flat, and one of the oldest residents of Placer county, was killed at his home last week by a bale of hay falling from the hay loft.

CHAIRMAN HANNA of the Republican National Committee has leased a suite of rooms at Washington, where he proposes to establish the National Committee in permanent headquarters.

JOSEPH CHOATE, the great New York lawyer, is a candidate for the United States Senatorship to succeed David B. Hill. He hasn't much show, as Boss Platt will probably prefer a more pliable man.

THE promptness with which the courts have gone to work to settle the differences between Prizefighter Fitzsimmons and Prizefighter Sharkey is in striking contrast with their delays in the case of Durrant.

THE San Francisco health officer finds that much of the so-called strained honey sold in the local market is nothing but doctored glucose, there not being a drop of honey in the mixture. Pieces of honeycomb are usually put in the bottles simply to aid the deception. The health officer has also reported upon several samples of tomato catsup, and in each he found salicylic and boracic acid in such quantities as to be very injurious to the persons eating such preparations.

LILIUOKALANI, formerly Queen of Hawaii, is in San Francisco en route to the East. Her nominal purpose is to visit her late husband's people; but her real motive is probably political. That she will be able to accomplish her restoration is believed by nobody. President Cleveland, who would have been glad to aid her, tried it and failed, and is not now in a position to be of any use to her. McKinley, it is believed, will be favorable to annexation of the Islands to the United States. This is the settled wish of the powers which control at Honolulu; and in one form or another it appears bound to come about.

WASHINGTON, December 10.—Representative Barrett of Massachusetts has introduced a bill providing that members of the President's Cabinet shall be chosen either from the Senate or House of Representatives, with the restriction that the Secretary of the Treasury shall be chosen from the House and the Secretary of State from the Senate. They are to retain their seats in Congress and lose their portfolio when the term for which they are elected expires. Only the salary of a Cabinet officer is to be drawn by such official. A member of Congress who passes from one house to the other will retain his position in the Cabinet. They are to be confirmed in the manner now required by law.

IT is claimed by the Cubans that Gen. Maceo was lured to his death by treachery. He passed within the Spanish "trocha" with only forty men, and all were butchered in cold blood. The Spaniards, both in the home country and at Havana, make no secret of their delight in the death of the patriot leader, their assumption being that it will end the war. There is, however, no indication that the Cubans will submit. Maceo was a fine soldier, but his relations to the Rebellion were far from being paramount. There are other trusted leaders in the patriot army, and there seems to be no reason why the cause should suffer more than a momentary embarrassment from Maceo's death.

ON Friday morning of last week the dead bodies of Mrs. Sarah B. Cooper and her daughter Harriet were found in the home on Vallejo street, in San Francisco, death having resulted from gas poisoning. The daughter, it appears, has been suffering from suicidal mania; and all the circumstances went to show that she had purposely destroyed both her mother's life and her own. Mrs. Cooper was easily the most noted woman in California. She was the originator of the free kindergarten system here and personally raised the sum of $300,000 for their endowment. She was also engaged in many other forms of charitable and religious effort—her celebrated "Bible Class" being in reality a Christian church, of which she was the head and soul. In her death California loses a great leading spirit and a moral influence at least second to none other. No small part of the merit of Mrs. Cooper's career lies in the fact that her circumstances were very moderate, her work and influence resting wholly upon character and capacity, and wholly without the aid which comes from personal wealth.

Why the London Market Discriminates Against California Fruits.

A lady writing from London to the San Francisco *Chronicle* thus sets forth the causes which interfere with the sales of California fruits in the London market:

Apart from the disadvantage of its generally arriving at market in an imperfect condition, owing to the long journey and the altogether inadequate facilities for cold storage aboard ship, I found there existed other reasons why California orchard and garden products are discriminated against. While I believe many of the objections to be based on nothing more substantial than rank prejudice, still they are facts, and work to California's disadvantage.

In an interview with the chef of White's Club I was informed that the reason why California fruit is excluded from the menu card of that aristocratic resort is because of its inferior flavor compared with the French and Italian product. This result is due, in the chef's opinion, to its long contact with ice in transit, which totally deprives it of its original delicate taste. Speaking of tomatoes he said: "I have on several occasions given American tomatoes a trial, but never with any satisfaction. The canned tomatoes never come uniform in the first place; there is no way of forming a rule as to their use. Now, with the French article we know their quality to a degree. When we are preparing a dish that calls for just so much of a certain flavoring we have to have an article that can be relied upon, otherwise the dish is ruined. We always use the French or Italian tomatoes; they are smaller, but their strength is concentrated, and they are of a superior flavor. The Californian tomatoes are more than half water."

At St. Stephen's Club I was told practically the same thing; quality being the only object; they had no use for the Californian product. "Another objection to your tomatoes," said the chef, "is the way they are put up. They are usually all mashed beyond recognition and cannot be sliced to ornament a dish. The French tomatoes come out of the can as hard and whole as when fresh gathered."

On inquiring at various stores I found the American tomatoes, both fresh and canned, to be the cheapest in the market, so that it is not on the score of price that our product is in disfavor in London. The French, Italian and the English hothouse tomatoes fetch from 12 to 25 cents per pound fresh, according to the locality in which they are sold, while the American product sells for less than one-fourth of that price.

Most of the London chefs are either French or Italian, as are the principal fruit dealers, and they

naturally favor the products of their native lands to the utmost that is in their power, and seek to east discredit on any that may come in competition with them. To this influence I largely ascribe the prejudice in London against California fruit. I recollect one instance which verifies this belief. While making a purchase in a store kept by an Italian I remarked on the unusually seedy appearance of some apples he had for sale, whereupon he replied: "Well, you see, they come from California." As a matter of fact, they had no more seen California than he had.

That there are other transgressors in this direction is evident, for in London all the bad fruit comes from California. A London grocer remarked to me during a conversation that the prejudice of nationality in the great metropolis was something approaching the unbearable. As an instance he cited the case of an Italian lady who ordered macaroni, and to whom, by mistake, he gave the French make. She came back in a terrible rage, as if considering herself grievously insulted, and demanded the return of her money or maccaroni that had been made in her own beloved Italy. I thought at the time if Americans would only be half as clannish, or patriotic (as you prefer), how materially it would benefit their country.

There can be no denying the fact, however, that our canners do not put up their goods in the most attractive manner. Speaking with the manager of one of the army and navy co-operative stores on the subject he informed me that the sole objection of his customers to California canned fruit consisted, as far as he could learn, in the manner in which it was put up. "If California would put up its choice fruit in glass jars, as do the French, it would find a readier sale and command a higher price. At the best tables preserved fruit is now put on in its original package, and, of course, cans are out of the question."

While in New York my attention was attracted to some particularly fine grapes on display in a fruit store at the corner of Fiftieth street and Seventh avenue. I learned with surprise that they were imported from London, being a hothouse product, and that they sold for $2.50 per pound. The dealer told me that not only did he experience no difficulty in obtaining that fancy price, but, also, that the demand was such that he could sell all that could be supplied. There was nothing extraordinary about their flavor (certainly California produces as good), but every bunch was most perfect. When I state that exactly the same product sells in London at 45 cents to $1 per pound, according to locality, it can readily be seen that there is money in catering to the best market, and that it is a paying investment for the fruit grower to expend a little care and attention upon his product.

Canada wisely protects its horticulturists by a tariff on fruit from the United States. I found Canadian grapes selling in Northwestern Ontario, in the season, at 25 and 50 cents per pound, and pears, inferior, at 30 cents per dozen; while California could have given them the product at half the figure after allowing for handsome profits to both grower and dealer.

After seeing the famous olive groves of Provence, I must confess I cannot see any obstacle to California capturing the world's market in this particular, unless prejudice is unconquerable. Not only are our olives larger than those of France, but they are of a fresher hue and of greatly superior flavor.

Death of a Famous Holstein Sire.

To the Editor:—I regret to announce to you the accidental death of the great Holstein bull, Clothilde 5th's Clothilde, who died the property of W. A. Keefer, being purchased by him about a year ago. Mr. Keefer states that the bull was feeding on the edge of a gulch when the bank gave way and the fall broke his neck.

As an individual, Clothilde 5th's Clothilde had no superior in the United States, and had two crosses to the celebrated cow, Clothilde, who was winner of the sweepstakes against all breeds in the butter test at the New York Dairy Show of 1887 and had a butter record of 28 lbs. 2¼ ozs. in seven days, 95 lbs. 2¼ ozs. unsalted in thirty days, and a milk record of 101 lbs. 2 ozs. in a day and 26,021 lbs. 2 ozs. in a year—the second largest record ever made. His sire was a grandson of Clothilde 4th, three-year-old butter record 23 lbs. 10¼ ozs. in seven days, and his dam, Clothilde 5th, had a butter record of 10 1/32 lbs. in seven days, made when less than two years of age, and a three-year-old record of 21 lbs. 10 ozs. in seven days. In his pedigree were to be found five crosses to the famous cow, Lady Netherland, who may be said to be the founder of the Netherland family, which has become widely known as the great butter family of Holstein-Friesians.

Clothilde 5th's Clothilde, while my property, won the following prizes in the show ring, competing against the best herds in the State:

Best yearling bull at San Jose, Petaluma, Stockton, Oakland and Sacramento, 1892.
Head best dairy herd at Stockton, 1892.
Sweepstakes bull at Petaluma, 1892.
Best two-year-old bull at San Jose, Sacramento, Petaluma and Oakland, 1893.
Head best dairy herd at San Jose and Oakland, 1893.
Best bull of any age at Petaluma and Sacramento, 1893.
Head sweepstakes herd at Sacramento, 1893.
Sweepstakes bull at Sacramento, 1893.
Head best young herd at Sacramento, 1893.
Sweepstakes bull at Sacramento, 1894.
Best bull of any age at Sacramento, 1894.
Head of best dairy herd at Sacramento, 1894.
Head of sweepstakes herd at Sacramento, 1894.
Sweepstakes bull at Sacramento, 1895.
Best bull of any age at Sacramento, 1895.
Head of best dairy herd at Sacramento, 1895.
Head of sweepstakes herd at Sacramento, 1895.

He was never beaten in the show ring. His sons and grandsons are proving worthy of their sire. Sir Walter of Clothilde, one of his oldest sons, was the best yearling bull at Sacramento in 1894 and also headed the best young herd at the same fair. In 1895 he was the best two-year-old bull and headed the best young herd at the State Fair at Sacramento, and in 1896 at Sacramento he was the best bull three years old and over, head of best old herd and sweepstakes bull. Another son, Promise Me, was the best bull calf at the California State Fair at Sacramento in 1896, while a grandson, Lord of La Siesta, headed the silver medal herd.

At the same fair his three-year-old daughter, Windward, and his two-year-old daughter, Pride of La Siesta, won first prizes in their respective classes in the seven days' butter test, against Durhams and Jerseys from the best herds in California, while another two-year-old daughter, Maid of La Siesta, won second prize in the same contest.

In the death of Clothilde 5th's Clothilde, Holstein-Friesian breeders have lost one of their best representatives. Mr. W. A. Keefer, his last owner, has the sincere sympathy of all those who know the excellence of the great Clothilde family.

San Francisco. Frank H. Burke.

THE POULTRY YARD.

How Eastern People Do It.

No doubt California readers will enjoy a few paragraphs which may suggest reminiscences of how the poultry helped our the farm exchequer in the old States and possibly may also suggest possibilities for present action.

What the Poultry Did.—Waldo F. Brown writes to the *Country Gentleman* that he expected quite a falling off in his farm receipts last year, but was gratified to find they are fully up to the average of the last ten years, and over one fifth of our cash income has been from the poultry yard. I started, says he, the first of January with 120 hens, and 6 ducks, and my book shows sales of eggs $78 70; of ducks, $41; duck eggs for hatching $5, and a small amount of poultry sold, making an aggregate of $127.95. This estimate does not include eggs or poultry used in the family, or increase of stock; and we have on hand of early pullets about 60 and 40 ducks in excess of the stock we started with. While I have not kept an accurate account of the cost of food, I believe that the poultry products used in the family and the extra stock now on hand would go far towards paying the cost of keeping, and that if we add to this the $27.95 it would leave us $100 net profit. I shall sell within the next two months old hens and surplus cockerels to reduce my stock of hens to 100, and shall have a few drakes to sell, and expect to start in the coming season with 40 laying ducks and 100 laying hens, and with the experience I have had this year in growing and marketing, I hope to make a much better showing next year.

A Plea for the Old Hens.—I have seen poultry-growers recommend selling off the old hens in June, but my experience this year has proved that it is largely profitable to keep them through the entire summer. We sold large quantities of eggs in February, March and April, and then used so many of our hens for hatching ducks and chickens that the sales were considerably diminished until the middle of June. I kept no record of eggs produced or sold until the later date, and have taken no account of eggs used in the family; but in the four months, June 15 to October 16 inclusive, I sold 307 dozens of eggs. These eggs were sold at two cents above the market price, to a single customer—none of them at less than 10 cents per dozen, and the last month at from 12 to 15 cents, bringing $32. As this is more money than the entire lot of hens that produced the eggs would have brought in June, and the cost of keeping these hens, at the present low price of food, was scarcely one-fourth of what the eggs brought, it will be seen that the hens were kept at a large profit, and will sell now, probably, at the same price that they would have brought in June. We always lose a few hens during the hot weather, occasionally kill one for family use, and sell a few to neighbors to accommodate them; so that at the date mentioned (June 15) our flock was reduced to considerably fewer than one hundred.

How the Poultry Pays.—There is, of course, considerable work in the production of this amount of poultry and eggs, but, when compared with that of many other products of the same value, it is really insignificant. At present prices I should have had to produce over 600 bushels of potatoes or corn, 25 hogs weighing nearly 200 pounds each, five average cows or two good horses to give this amount of money, and in the case of the latter animals from two to four years care and keep would be required. So I believe that poultry compares favorably with the best products of the farm, and is much more profitable than most things which we grow.

High Class Eggs.—I do not think it would be possible to get as good an egg yield as I report without the best of care in feeding. My poultry have been fed three times a day, just as carefully and thoroughly as work horses or fattening stock. Another thing which will add largely to the profit is to market all surplus poultry just as early as possible. A duck ten weeks old will cost less than half what one will four months old, and will bring just as much money. Early chicks no larger than quail will often bring more money than those that are kept twice as long. During nearly the entire four months in which my eggs were sold, as reported, the hucksters were paying but 7 cents per dozen in cash, and the grocers 8 cents in trade; but by contracting my eggs to a large boarding house, warranting every egg to be fresh, and seeing that it was so, I received always 2 cents or more above the market price. When no nest eggs are left in the nests, and one person gathers the eggs every day, keeps them in a cool place, and markets regularly on a given day each week, it is perfectly safe to warrant the eggs, for they cannot be otherwise than perfectly fresh and good.

The Great Show in Sacramento.

Those who go to Sacramento to see the opening of the legislature will not forget to walk over to the other large building on the same square and see the combined poultry and bench show which opens Jan. 6th and runs until Jan. 13th for the poultry and from Jan. 9th to 12th for the bench show. The show will be held in the State Fair Pavilion—probably the best building in the State for the purpose, as it has both space and light in large dimensions.

The show will be held by the California State Poultry Association and the Kennel Club. The officers of the Poultry Association include the following well-known breeders and experts: President, J. A. Scholefield, Hollister; vice-president, E. A. Noyes, West Butte; secretary, W. E. Ladd, Stockton; treasurer, C. W. Hansen, San Mateo; board of directors—E. H. Freeman, San Jose; Chas. R. Harker, San Jose; Thos. F. Morrison, San Jose; O. J. Albee, Lawrence; A. E. Armstrong, Petaluma; F. P. Lowell, Sacramento; H. F. Whitman, Alameda; Wm. A. French, Stockton; Geo. H. Croley, San Francisco.

The judge at the show will be J. Otis Fellows of Hornellsville, N. Y., an expert of the highest rank.

THE VETERINARIAN.

Answers by Dr. Creely.

To the Editor:—In answer to a question recently submitted by a Rural subscriber, I would say that lampas is an inflated condition of the gums and is generally seen in horses teething. After a horse is five years old he never gets true lampas. Above all things never allow the gums to be burned with a hot iron. A horse should be treated exactly as a human being, for a child gets lampas when teething the same as a horse, and the medical practitioner applies some cooling astringent wash. If the family doctor would suggest burning the child's gums with a hot iron, he would probably be the principal in a lynching bee. There is as much sense in burning a child's gums as to burn the gums of our poor faithful uncomplaining horse.

Treatment.—Lance the gums, allowing a free flow of blood. This reduces the inflamed, congested gums. Give soft, cooling washes and apply a lotion composed of the following as often as possible: Pulv. alum, ½ oz.; chlorate potash, 2 ozs.; tinct. iodine, 1 oz.: water, 1 quart.

To the Editor:—I shall be glad to know the best cure for a horse suffering from rheumatism or sciatica. He has now gone lame for four or five weeks. One day he will quite hobble on his fore feet, and the next day hardly show any signs. One hind foot has what is called cocked ankle, either from rheumatism or a slight sprain, and has been tender on it for about five weeks. His water is very thick at times, for which I have to dose him. Would this have anything to do with the rheumatism? I give him an occasional feed of alfalfa hay, which seems to help him considerably. F. J. Fitch.
Loomis, Placer Co.

Rheumatic lameness shifts from one leg to the other—travels about, so to speak. There is more or less pain when pressed. Take one-half pound of strong, dry mustard; add cold water until pasty, then rub it in well. Stick brown or manilla paper over it and let it dry on. Don't wash off. Feed cooling and laxative foods—alfalfa, carrots, grass and bran mashes. Give internally the following prescription: Soda salicylate, 2 ozs.; soda chloride, ½ oz.; potash nitrate, 4 ozs.; pulv. quassia, ½ oz. Mix and make twelve powders. Give four daily in feed; also plenty of flaxseed tea. Dr Creely.
510 Golden Gate Avenue.

ARBORICULTURE.

The Chestnut in California.

To the Editor:—Last spring, a very good book from the Department of Agriculture, entitled "Nut Culture in the United States," was issued, but on account of an act of Congress passed last winter, limiting to an edition of 1000 copies all bulletins, reports, etc., containing more than 100 pages, only 1000 copies of that book was published. The Department could not be blamed for such a niggardly edition which, as the Rural Press remarked in its issue of May 16th, rendered it wholly inaccessible to the tens of thousands who would be interested in it; Congress alone was to blame for it. But to make up for the deficiency, the Rural Press published the principal portions of the book, those relating to the walnut and almond, as being of great interest to the people of this State. As you didn't give any extract from that portion of the book relating to chestnuts, I would like to have you publish in your columns a short essay of mine on that very nut.

First, I would call your attention to a paragraph of the aforesaid book, page 80, under the heading of "Budding and Grafting," doing great injustice to than important member of the nut family, the chestnut, as far as this State is concerned, and reading as follows: "Neither budding nor grafting is very successful with the chestnut in the dry climate of California."

As I have budded and grafted with success on my own place, in Nevada City, for the last twenty-six years, thousands and thousands of chestnuts, that extract greatly surprised me; so I remonstrated with the Department against such a sweeping assertion, telling them that they were doing a great injustice to our State in publishing such an erroneous statement, especially in a work of that kind, and assuring the Department that it had surely been imposed by some ignorant horticulturist.

Mr. S. B. Heiges, head pomologist of the Department, replied to me as follows:

Regarding your comment upon what is stated in the bulletin on "Nut Culture," page 80, concerning grafting or budding the chestnut in the dry climate of California, I would state that you were the only party who reported success, and that there are portions of California in which the climate perhaps is much dryer than where you are located. From what I have been able to learn, your climate more closely resembles that of the Eastern States than any portion of California. Here, our successful chestnut grafters consider anything less than 90% as a partial failure. Amongst others who have reported their experience in grafting and budding the chestnut in California, I may mention Luther Burbank, who reports: "Neither budding nor grafting is very successful in this dry climate."

Thus it appears that Mr. Luther Burbank was the person who gave the Department such erroneous information; that Mr. Burbank met with failure in budding and grafting the chestnut on his place in Sonoma county I will not dispute, though it greatly surprises me; but he should not have *generalized*, and more so when his information was to be published in that book, and assert that "neither budding nor grafting is very successful in the dry climate of California." But it is a fact that Californians are too apt, when failing to accomplish one thing or another, to throw the blame on our *dry* climate, but never on themselves. Now, let me tell you that such is not the case, for the chestnut can easily enough be budded or grafted in California, if we only know how to do it; and I assert that the climate either of Nevada or Sonoma counties has nothing whatever to do with the success or failure in budding and grafting the chestnut, as one is certainly as dry as the other. I know positively that the summers in this county are terribly dry and hot. Now, for the benefit of the readers of the Rural Press I will hereby describe how to bud and graft the chestnut, giving them at the same time some general ideas on its culture and planting and the harvesting of its nuts, and figures showing how important has become in other countries the culture of that nut tree.

Grafting the Chestnut.—If asked at what time of the year I graft the chestnut, I would answer: At any time from March 1st to October 1st; for I have grafted (common cleft grafting) chestnuts with good success in the spring, also in midsummer (July) and in the fall (from September 20th to October 1st). For summer grafting I used with equal success scions kept in sand in the cellar, or wood of the year's growth right from the tree. The reason why I practice fall grafting—not only on chestnuts, but also on apples, pears, prunes, etc., and, as I tried for the first time this fall, on walnuts—is because I have more time and leisure to do it in the fall than in the spring, at which time work of all kinds crowds up all around on the place. Grafting done in the fall keeps dormant, the same as budding, the grafts putting forth in the spring at the same time as buds do. But the grafts must be taken from that part of the scions where the wood is perfectly round and not angular-like—that is, from the base of scions. I graft also one-year-old trees as large as a pencil, at the table, in February, planting them out in the spring, succeeding 40 to 50 per cent; a larger number if the stock is of a larger size.

Chestnut grafting is as successful on large as on small trees. If a limb is too big it is better, as with the walnut, to use sap grafting, which consists in making two clefts, one across the stub at each side of the center, right in sap wood, instead of making a single cleft through the center. In inserting the graft one must make allowance for the difference in thickness of bark of both stub and graft, and insert the graft so that the wood of the graft will unite with that of the stub.

Budding the Chestnut.—Budding can as successfully be performed on the chestnut as grafting; it may be done as early in the summer as after July 4th, and the buds be made to grow to quite a length before the fall; dormant budding, however, is preferable. It is done in August and September; but a condition *sine qua non* of success with the chestnut, as with the walnut, both stock and scion must be fully in sap; it is to say that chestnut budding should rather be done late in summer or early in the fall. The same as for grafting, the wood of the scions from where the buds are taken should be perfectly round. The stock or shoot to be budded should be of the size of the fore and medium fingers. Shield, plate and ring budding are used on the chestnut with about equal success; plate and ring budding, however, being much more liable to succeed than shield budding. In performing the latter operation the shield of bark from the scion should be cut two inches long and wide in proportion. Too small stock, which would be of very good size for apple, pear, peach, etc., will not do to be budded. When the stock or shoot is of the size of the medium finger or thumb, or larger yet, I always use plate and ring budding. If the ring of bark taken from the scion goes only half way round the stock, it is what is called plate budding; if it reaches all around it, it is what is called ring budding; but in both cases it is the same principle, only that in plate budding so much of the bark is left on the stock, only enough being taken out to allow the insertion in its place of the ring of bark from the scion, generally smaller than the stock. Chestnut stock sometimes does not grow the first year large enough to be budded; in that case it is left over for the ensuing year, being cut back close to the ground in the spring, to make it grow a new shoot of the proper size; for the operation of budding is much more successful on wood of the year's growth than on two-year-old wood—exactly the same as with the walnut, and don't you forget it.

Soil and Exposure.—The chestnut is a hardy tree whose crop, except that of the Japan chestnut, is seldom injured by late frosts in the spring. I never had any of my French varieties of chestnuts injured on my place by frost at any time of the year, and, furthermore, they bear regularly and heavily every year. The chestnut is a regular mountain tree, and may be regarded right at home in our mountains. The soil best suited to the chestnut is a sandy, granitic, or ferruginous sandy-clayish, deep soil. In Nevada county, up to an altitude of 3000 feet, can be seen twenty-five years old French chestnuts bearing well and bearing nice nuts. This nut tree is certainly better adapted to central and northern California than to the southern part of the State, and it is a fact that wherever the olive does well the chestnut does badly, for it is too hot for it. The chestnut will mature its nuts well at an altitude of 3000 feet in the latitude of northern California and at 4000 feet, probably, in the mountains of southern California; but wherever summers are either too short or too cold for the nuts to mature well, only such varieties as are know to mature their nuts in a shorter time should be planted, and there are such varieties of chestnuts, though the nuts are smaller.

In mountain gorges and with a sunny exposure the chestnut does splendidly, otherwise an eastern or northern exposure is best for the tree. In the red clay of our mountains, with a little mixture of decomposed granite, in soil so hard and impermeable that holes dug in it will hold water for weeks, the chestnut does surprisingly well, and I have an idea that when planted way up in the mountains, say at an altitude of Nevada City or 2500 feet, the chestnut is less particular on the nature of the soil, though the same as with the walnut, the richer and deeper the soil is the more thrifty will the chestnut grow.

Irrigation.—In very dry soil a little water through the summer months will be of great benefit to chestnuts, but too much water, I believe, would affect the nuts in this way, that it might retard their maturity. Several years ago in irrigating nursery stock I had a stream of water running constantly at the foot of a grapevine and the grapes never matured on the vine, and this summer I had water running almost constantly at the foot of a chestnut of the very kind maturing its nuts in a shorter time than other varieties and the nuts matured badly, while trees of the same kind in nursery rows and very little irrigated matured their nuts splendidly. It shows that intensive irrigation is as bad for nuts as it is for fruit and grapes. Fruit, for instance, will grow much larger if given plenty of water, but its keeping qualities will be destroyed and often injured. It is to say that if chestnuts, like any other class of trees planted in dry soil, will be benefited by irrigation, too much of it might hurt. It would be wise to stop irrigating *bearing* chestnut trees one month to six weeks before ripening time.

Reproduction and Planting.—The chestnut does not reproduce itself very well from the seed, hence the reason why that tree is invariably grafted to obtain those large round nuts known the world over under the name of "Marrons" or French chestnuts, the kind used as dessert, either roasted or boiled. The American chestnut is propagated from seed, and is almost barren in California, but much better results would be obtained as to size and productiveness, if not quality also, if its best types were propagated by grafting, which I myself intend to do hereafter, having for that purpose procured, through the Department of Agriculture at Washington, scions from two good bearing trees on a farm in old Virginia.

Chestnuts should be planted from 30 to 35 feet in rows, when planted in orchard—farther apart if it is desired to plant between the chestnuts fruit trees bearing a crop sooner, such as prunes, apricots, or peaches; for chestnuts, like walnuts, require some time to bear a regular crop. Chestnuts do very well planted in clusters on hillsides, or in rows, alongside fences, but inside of them, or scattered all around, a few here and a few there, either in field, vineyard or orchard; but I would not plant any as shade trees on public thoroughfares such as streets and roads, for the boys, and girls, too, will go after them in a lively way, throwing stones and sticks into the trees, to make the nuts drop down to the ground, to the great annoyance of the owners of the trees. I know some people in Nevada City who, to put a stop to the nuisance, had their trees cut down, entirely doing away with them.

In France, as with the walnut, seedling trees are planted to create a chestnut orchard, and grafted (cleft grafting) or budded (ring budding) at the top, 5 or 6 feet from the ground, when large enough to undergo the operation. Pruning the chestnut is useless and even hurtful, the only pruning necessary being the cutting off of dead wood, or limbs in each other's way, or to give the top a nice shape, but the very top of the tree should be left alone. Fruiting wood forms itself naturally, no trouble about it and is not helped out by pruning, as is the case with fruit trees, and besides it lives a long time. When the trees are getting very old pruning is beneficial, for, by cutting back limbs worn out with age, it compels the tree to grow a new top. Here under the hot sun of California I find that it is better to train the tree rather low. This is the way I do it: first I let the tree branch out at 5 or 6 feet, letting the lower limbs spread out to their full length—and chestnuts have a great tendency to spread and especially on the sun's side—then I support with poles those lower limbs, never trimming them off, and making it high enough for any man to stand up under the tree; for it is those very limbs that bear the most of the nuts and the largest and finest ones; if those limbs were not propped up they would bend down to the ground under the weight of the heavy burrs, as such is the case with Marron chestnuts.

Harvesting and Preparation of Chestnuts.—The chestnut at this altitude ripens its nuts from the middle of October to the first of November, the prickly burr cracking open at the head, showing the brown shell of the nuts inside, which drop to the ground when the burr is fully open or the wind shakes them down. However, to accelerate the harvesting of the nuts, and when the burrs have taken a dark yellow color which tells that the nuts inside are ripe, the burrs and nuts are knocked off the limbs by striking on the latter with long, flexible and slender poles. A little wooden mallet is generally used to open the burrs falling to the ground and which do not burst open naturally. Boys stealing nuts simply use their two feet in squeezing out the nuts from their prickly envelopes. The nuts are then placed in a shed to sweat—that is, to throw out their vegetation water—and shipped immediately to market, if to be used *fresh*.

In the island of Corsica, where chestnut trees comprise one-third of the wooded part of the island, they first cut down in August the grass, ferns and briars that cover the ground under the great chestnut trees so as to permit the harvesting of the nuts with more ease. The harvesting of chestnuts in that island lasts twenty-five days and is done by women, who are boarded, and at the end of the harvesting are paid not in money but in "bleached chestnuts"—that is, twenty-five gallons of bleached chestnuts for twenty-five days of labor. Bleached chestnuts are chestnuts dried hard and cleared of both hull and pelicle; in short, ready to be ground for the manufacturing of meal or flour, extensively used in all chestnut-growing countries. Three gallons of fresh chestnuts are required to make one gallon of bleached chestnuts. By the way, chestnuts so dried keep a long time, and are packed either in sacks or hogsheads.

The Foreign Varieties.—The common European chestnut, whether French, Italian or Spanish, is small, flat on both sides—at least half of them—and grows generally four to eight in one burr. This is the kind that is dried hard and bleached for the making of meal and flour; bread, cake and a delicious mush, eaten with milk, being made with it. The cultivated chestnut—the kind raised for dessert and market, and which is either roasted or boiled—is the Marron. It grows generally single or in pairs, sometimes three in one burr. Apropos, I could not but smile in going over some Eastern nurseries' cat-

alogues to read about chestnuts bearing as many as four to six nuts in a burr, the nurserymen laying a stress on so many nuts found in burrs. Well, that is a defect, if raising nuts for market, for the less nuts in the burr the larger and, consequently, the more marketable are the nuts. The same with walnuts; kinds that bear large nuts may, for instance, yield less nuts per tree, though the same quantity in bushels or pounds. Anyway, as small nuts are almost unmarketable, or at the best held at very low prices, it is much more profitable to raise large nuts, which are always marketable and at fair prices. So it is with chestnuts.

The Marrons, the largest chestnuts raised, have a glossy shell, are sweet and, when roasted or boiled, the inner skin comes off nicely. If roasted, a small incision should be made with a knife at the small end, to prevent the nut from bursting open with a loud report; if boiled, the shell should first be removed and then boiled in water the same as potatoes. They are delicious cooked both ways. Our confectioners are now roasting them in their peanut roasters, and people seem to take well to them. A Thanksgiving turkey stuffed with chestnuts is getting to be quite a la mode up here in this chestnut growing region, and is a capital dish; and I predict that in a given time, when Marrons will be grown plentifully in California, as they should already be, every Thanksgiving turkey on this privileged coast will be stuffed with chestnuts.

Importance of the Chestnut Trade.—The chestnut trade in France, Italy, Spain, Turkey and other countries of southern Europe, is simply immense. In central France the chestnut is called the "bread tree;" and some years there is such an abundance of nuts that cattle are also fed with them. The average production of a grafted chestnut or Marron in full bearing is estimated at 60 kilograms (112 American pounds). I have a Marron Combale chestnut tree on my place, planted in the spring of 1871, which averages 90 pounds of nuts per year for which I have refused 15 cents per pound; last year that tree yielded 100 pounds of nuts, but only 70 pounds this year, which decrease in yield was surely due to our exceptionally bad spring which killed all my fruit crop. I find chestnut trees up here to bear regularly every year and heavy crops, too.

France makes an immence consumption of chestnuts, and though the production within her own territory reaches enormous proportions, she has still to import large quantities of the nuts and meal from other countries. Italy has 1,500,000 acres planted in chestnuts, producing 5,800,000 quintals of chestnuts (a quintal is 100 pounds). It 1880, that country exported to France 12,000,000 pounds of chestnuts and Marrons valued at $350,000. In 1881, Turkey exported to France 7,246,000 quintals of chestnuts, Marrons and chestnut meal. In 1881 France exported over 15,000,000 pounds of Marrons, chestnuts and meal valued at $560,000; 5,000,000 pounds going to England, the balance to Switzerland, Algeria, Germany, Holland and Belgium. Paris alone consumes 20,000,000 pounds of Marrons (table or dessert chestnuts) every year. In the Department of Dordogne, and where such large quantities of walnuts are grown, there are 200,000 acres planted in chestnuts; this Department exporting $400,000 worth of chestnuts of all sorts. In the Department of Ardeche, where the soil is of a granitic, volcanic formation, 150,000 acres are planted in chestnuts; mostly Marrons or chestnuts for market are raised in that Department, they selling for almost twice as much as common chestnuts. In the Island of Corsica the chestnut is planted up to an altitude of 4000 feet. There are trees in that island measuring 25 feet in circumference and which are 80 feet high. And so on in ofmany Departments, especially in central, eastern and southern France. In the Department of Haute-Savoie, where there are immense quantities of chestnuts, are several establishments manufacturing gallic acid, which is extracted form the wood of the chestnut, and selling for $5 to $6 per 211 pounds (100 kilograms).

Future of the Chestnut in California.—Thus we see of what immense importance is the growing of the chestnut in France and southern Europe, and the question that naturally occurs to our mind is: Why should not we, here in California, where half of the territory may be said to be well adapted to the culture of that tree, raise the chestnut, at least the Marron chestnut, on a large scale, and then add another important product to our already large list of products of all kinds? That chestnut culture is possible if the trees are planted in those parts of our State well adapted to it, is sufficiently proved by trees found in the mountains and in full bearing. I have the pleasure of sending a box of Marron chestnuts for you to sample, roasted and boiled; and I want you to tell if there is not in our great and privileged State quite a future for the production of such nuts.

FELIX GILLET.

Nevada City, Cal., Nov. 24th, 1896.

[Mr. Gillet has given us a most interesting essay. We have no doubt he is right as to the future of nut in this State. Unquestionably the large growing of the choicest varieties will lead to their free consumption. There is really no comparison in quality between the Marrons and the common Italian chestnut. We shall be glad to hear from others on the chestnut question.—ED.]

HORTICULTURE.

Apples on Pear Stock.

TO THE EDITOR:—Will you please tell me, either through the PRESS or otherwise: Can apple (Gravenstein) be grafted on Bartlett pear trees (about fourteen years old) so as to make a fairly good tree? The pear trees in this locality are a great trouble and do not pay. Will it be better to dig them up?

Sebastopol. JAMES MCKENZIE.

This is commouly held to be unsuccessful, but there is some reason to think that the prevalent opinion should be revised. A Sonoma county orchardist, whose name we have at the moment forgotten, wrote the following last year:

Apples on Pear Stock.—Those who have found the Bartlett pear unsatisfactory, as it has proved in the past year when sold in a green state, would gladly change to apples, which have commanded better prices. If we can graft our Bartletts to apples it will be a great gain. The little done in that line in this locality is not conclusive, but it is encouraging and justifies further trial.

Several articles in different horticultural journals lately speak of partial failures in grafting the apple to the pear, but it is likely the grafters made the mistake the writer did years ago, viz.: They put their scions in too large stocks, frequently cutting off limbs two or three inches in diameter. Such scions will grow in large stocks as well as small, but it takes the large stock so long to grow over that it is sure to get blown out. If grafters would confine their operations to limbs from three-quarters of an inch to an inch and a quarter in diameter there would be far less danger of their blowing out, and they would grow over the stump by the second year—frequently the first.

As to the union of the graft with the stock, we have been unable to see anything wrong in hundreds of the examinations, but no doubt there are occasional defective unions. We shall find out as we go along which kinds grow together best, as well as many other things yet unknown. The writer does not assert that it is a complete success, but he will not admit that it is a failure until further trial proves it.

Is It Osage Orange?

TO THE EDITOR:—A friend of mine, who has been in France, wrote to me to know of what kind of orange Dodge (or Dadge) orange is, and in what part of this country it is raised. The Japanese asked a French where Dodge orange grows, and he was answered that it does in America. I think he thought that it is abundant here and the name of it is familiarly known, so he did not care of how it is spelled, he only said the pronunciation, Dodge orange. I asked some people of it, but they did not know it, finally I determined asking publicly on the paper. Please let me know by writing minutely about it in the PRESS. A. IKEDA (a Japanese).

Danville, Cal.

[We presume the inquiry refers to the Osage orange (*maclura*), a common hedge plant, which grows "mock" oranges. It has no kinship with the citrus family.—ED.]

Prune on Myrobolan.

TO THE EDITOR:—A few prune trees, two years old, on myrobolan root have made a fairly good growth, but the stem is a third larger than the root; yet they are healthy. Would you replace with new trees or let them stand? W. W. K.

Morgan Hill.

[We should let them stand by all means. By the way, this suggests that we ought to have a general discussion now on the good and bad points of the myrobolan root. It has been in use long enough to give many of our readers an opportunity to reach quite definite conclusions. Let us have them. It will be very interesting and valuable.—ED.]

The "Winter Bartlett" Pear.

At the late Horticultural Convention Mr. George C. Roeding, the Fresno nurseryman, exhibited a fine pear of a new variety which, following the suggestions of its appearance, he calls the "Winter Bartlett." The fruit shown at Sacramento was picked from a tree growing on the D. W. Lewis place, near Sanger, now about six years old. The tree is a very upright grower and it is with difficulty distinguished from the Bartlett, the only difference being that the wood of this variety is of a darker color. It is an excellent bearer, and in this respect it is fully equal to the Bartlett. The fruit bears such a close resemblance to the Bartlett that it is hard to distinguish the difference. In flavor it very much resembles the Winter Nelis. It is very juicy and sweet, but lacks the aroma of the Bartlett. It ripens in the San Joaquin valley—or, rather, it is in condition to be picked for shipment—between October 15th and November 1st. The tree in the nursery rows does not grow as straight as the Bartlett, being inclined to grow somewhat crooked, so that it is readily distinguished from the former variety when young. Its close resemblance to the Bartlett, its fine flavor, good keeping qualities and its lateness are qualities which should place it in the front rank as a shipping pear. The "Winter Bartlett" is believed to have originated in Eugene, Oregon. The original tree stands in a dooryard of that city, and, with possibly one or two exceptions, has borne a good crop for over twenty years. It is said to be very vigorous, 1 foot in diameter and 40 feet high.

Shaping Orange and Lemon Trees.

J. H. Reed of the Riverside Horticultural Club recently gave that organization a very carefully prepared paper on the pruning of young orange and lemon trees, from which we shall draw the following suggestions as to rational practice.

Don't Cut Back too Much at Transplanting.—I have come to the conclusion that one of the greatest mistakes made by planters is in removing *too much* of the top of young trees about to be planted. I have practiced cutting back very slightly before planting, for three years and am *thoroughly convinced* that there is great advantage in it over the ordinary severe cutting. More foilage is needed to prepare the sap for the removed tree than is usually supposed. A year ago last spring we planted ten acres of Navels. The contract for the trees called for them delivered in the wagon. I told the nurseryman how I wanted them cut before balling. He was greatly disgusted with the idea of leaving so large portion of the heads on, but said he would follow instructions. When they came to the field, I was much outdone to find he had gone to the other extreme as they were not cut back by half as much as I had directed. He had found that clipping as I wished it done took two or three times as long as cutting the three or four main branches a few inches long, as is the usual custom, and had only taken off a few of the tips. It was too late to mend the matter and I set the trees as they were. I never had trees do better. I dwell on this matter because I think it important. I have kept close watch during the summer of several thousand trees put out last spring, at the same time as ours. Most of them were cut back the old way, a few inches of the main branches with the few leaves they chanced to have. I fully believe that these trees might have been better to-day than they are by several thousand dollars had they come from the nursery with more foliage.

Unnecessary to Reduce Roots so Much.—Perhaps I should say if you *will* plant without having a fair amount of roots incased in balls, you are obliged to cut back at the top to have the tree live at all; but I don't believe there are any sufficient reasons for planting bare roots here where the nurseries, and fields to be planted, are at most but a few hours apart. I can take you to orchards that were planted last spring to first-class trees but with bare roots, where from one-fourth to one-third of the trees have been replanted during the summer from the failure of the first planting to grow, and the balance have made better growth. Out of 1378 trees which we planted in one orchard at the same time and under no better conditions other than the trees were carefully balled and tops but slightly cut back, but *one* tree failed to grow satisfactorily.

The First Pruning.—If the tree has been properly planted and cared for, it will soon begin to put out new growth, usually first along the stem, the strongest growth being lowest down. Here comes in the first pruning. (By the way, the term sucker as applied to these young shoots on the stem is wrong; they are not suckers, but proper branches. A sucker is an adventitious branch—that is, one out of place or accidental.) As many of these young branches along the stem as are not desired for permanent branches, should be rubbed off, the earlier the better, at least before woody fiber is deposited in them. My custom is to rub off promptly all below a point about two feet from the ground, if there is a prospect of getting sufficient good branches above that point. If not I come down 8 or even 12 inches lower if need be. Here is a departure from the usual custom to which I would like to have your best attention and thorough criticism, for after three years' experience with this method I am very highly pleased with it, and if there are serious objections to it I want to know them.

Low Heading Approved.—In many of the Mediterranean citrus fruit districts, especially in Spain, the custom is to head the trees but little above the ground. I think we have gone to the opposite extreme in raising the heads too high on the stem. In the early shaping of the tree I think it quite important that every orchardist should have a *distinct*,

definite notion of the sort of head he wants when the tree comes into full bearing. It is quite essential that the young tree should be started with reference to this desired form, from the first. My aim is to secure a larger, upright, compact bearing surface.

As to this building down along the stem process, my theory is, and I think my experience proves it correct, that by it we may largely increase the bearing capacity of the tree as well as early rapidity of growth of wood. You ask, Why not shape the head in this way, in the nursery? Simply because we can not. If we attempt a head 18 or 24 inches along the upper portion of the stem instead of one bunched near the top of it, we shall have the lower branches appropriating most of the sap and the upper portion will not be well developed; while if we get this upper story well established in the nursery the lower portion can be built on without detriment to the upper, if we provide nutriment sufficient for both.

Building Down the Stem.—I think you will readily see great advantage in having the branches that form the lower portion of the bearing tree come direct from the stem instead of being brought down from the branches that also from the main bearing surface above. This method of shaping the head necessitates frequent and intelligent pruning or clipping from the first. And just here I want to defend the reputation of our favorite Navel orange tree. It is claimed that it has not an upright character; at least it is not an upright grower. The common notion that the branch of the Navel naturally tends down is a mistake which grows out of the fact that in its rapid growth the new part of the stems and large leaves are so loaded with sap that they pull the stems from their natural upright position, and, unless relieved, hold them there till the deposit of woody fiber fixes the branches in the drooping or *unnatural* position. If the tips of these rapidly growing branches with their heavy leaves be clipped at the right time, the branches will spring back to the erect position, where they will remain to send out new branchlets. It is wonderful how the orange tree can be moulded like a thing of wax by pinching and clipping here and there, if done at the right time.

Advantage of This Method.—the beauty of this system of pruning is there is no wastage. The tree does not spend its substance in developing branches for months or years merely to be cut off and cast away. Nor is it obliged to spend other strength in recovering from the shock attending the cutting of every considerable branch. It is painful to see a professional pruner go at the sensitive orange tree with saw and shears, as he would go about shaping a rock or any other lifeless thing. And it is a mistake, too. Then by this method we have no bush to haul from the orchards except some accident occurs. It is true this method calls for more intelligent care than the old cutting and slashing way. You don't want to set your hired man or boy at it, unless he knows more about the nature and needs of the orange tree than you do—and it takes *time.* I like to go to every tree I have the responsibility of once in thirty days. In young thrifty orchards it takes a day to go over ten acres; clip such branches as need checking to secure upward growth or side branches, and see that no other branches are going wrong, so as to make trouble later on. This frequent inspection properly done will prevent the necessity of cutting out large branches on account of crossing or chafing, as frequently has been done. With the eye trained by some practice one can go rapidly through an orchard using the shears quickly where needed and know all about each tree.

Keeping the Wall of Foliage.—Besides the regular tours of inspection I always carry my shears when in the orchard and snip a rambling branch when seen. As the tree gets older there will be less of this clipping to do. The branches that persist in pushing out too far beyond the rest in well formed heads, should be checked. Fruit on such branches are usually culls from sunburn or chafing in the wind. The so-called suckers or water-sprouts should be looked after before getting large. If they can be worked in, as they frequently can be, to fill a vacancy or increase the height or in any way add to the bearing surface properly they should be retained. The notion that they will not fruit like other branches is a mistake. After the crop is off, the small dead branches frequently found in the interior of bearing trees should be removed, also any damaged branches. As to how low the branches should be allowed, until recently I have thought it best to keep the lower branches clipped back so that the fruit would not touch the ground. I am about persuaded that it is better to let them come to the ground even if considerable fruit rests on it. I find that many of our best orchardists do this, and claim that there are really less culls among the fruit on the ground than on the less protected branches above.

Method With the Lemon.—The lemon has a very different habit of growth from the orange. The branches naturally shoot upwards, stiff and straight, without branchlets. The requirement of the fruit is a compact head. To obtain this repeated cutting back is necessary from the first. If this is done promptly and intelligently a desirable head is easily obtained. The tendency is to allow those shoots to grow too long before pruning and then cut them too high up. When this is done the side shoots usually coming out near the cut end leaves the head of the tree too open. I commence clipping back as soon as the strong shoots of the newly set tree are 18 or 20 inches long, and every thirty days after during the growing season. I have some very well shaped heads now of trees planted last spring, while if they had been allowed to grow without clipping I should have had in place half a dozen or less, stiff, straight shoots standing a yard or two high.

The building down process is more easily accomplished on the lemon than the orange and the advantage is greater.

When to Prune.— As to the best time for pruning. If for any reason it seems necessary for any severe cutting, it should be done when the tree is nearest the dormant state in winter. With the system of clipping and frequent inspection the shears may be used at any season.

What I have said refers for the most part to building a desirable head on growing trees. Pruning trees in full bearing, for more or better fruit is quite a different matter, and in the lemon at least, an important one. But even if time allowed, I have not had the experience necessary to treat it properly.

THE DAIRY.

Recent Investigations of Cattle Foods at the University.

The work of Prof. M. E. Jaffa of the State University, in chemical analyses of the feeding stuffs available in California, and in disseminating information thereon, constitutes one of the most interesting and valuable features of our local advancement in progressive agricultural methods. Our columns have previously conveyed to our stock-feeding readers the earlier parts of Prof. Jaffa's investigations and conclusions. We have now the analyses and discussion of some other local materials by the same authority.

Mixed Feed of the San Francisco Mills.—Among the most important of the fodders analyzed is that of mixed feed. This is made up from the fine material resulting from the manufacture of the different kinds of cereal goods. It contains corn, barley, oats, wheat and rye. Nothing but good, clean material is allowed to go into the composition of a first-class mixed feed. The samples I analyzed were not obtained from the mills, but from dairymen from their ordinary feeding supply, so that the results can be depended on to represent the average of the material sold by the mills. It has been stated that "mixed feed" is a lot of worthless stuff and contains more dirt than anything else. I will say for the specimens which I analyzed that they were as clean and free from admixture of foreign material as any sample of bran or middlings that has come under my observation.

COMPOSITION OF FEEDSTUFFS.

Feedstuffs.	Original substance. Percentage composition. Moisture.	Purc Ash.	Crude Protein.	Crude Fiber...	Nitrogen Free Extract	Crude Fat	Amount digestible in 100 pounds. Protein...	Fat.....	Fiber.....	Nitrogen Free Extract	Fuel Val. Calories	Nutritive Ratio...
Mixed feed, average of 4 samples.	10.56	3.38	11.89	10.72	59.70	3.73	9.49	2.61	2.68	44.47	1142	1:5.6
Shorts.....	10.95	2.73	13.47	5.05	64.48	3.32	10.78	2.49	1.26	48.36	1227	1:5.1
Shorts.....	5.00	4.56	15.05	7.25	65.14	3.00	12.04	2.25	1.81	48.86	1261	1:4.6
Middlings, average.....	11.82	3.57	16.39	4.86	58.78	4.58	12.77	3.16	1.21	45.26	1246	1:4.0
Wheat bran.....	12.42	5.61	13.44	8.52	56.41	3.74	10.48	2.58	2.13	43.43	1151	1:5.2
Rice bran.....	10.55	6.64	14.96	4.85	50.20	12.80	10.73	10.64	3.68	38.15	1426	1:5.9
Linseed oil-cake meal, average..	9.51	5.53	31.65	10.51	35.20	7.59	25.95	6.91	2.10	25.70	1291	1:1.7
Cocoanut oil-cake meal.....	12.87	4.54	20.06	11.50	40.90	10.13	16.45	9.21	2.30	30.66	1308	1:3.2
Cocoanut oil-cake meal.....	14.68	4.27	19.16	8.55	42.81	10.53	15.71	9.58	1.71	30.21	1290	1:3.3
Cottonseed oil-cake meal.....	9.85	5.00	47.25	3.19	22.64	12.21	41.11	10.99	1.47	13.92	1514	1:1.2
Burr Clover.....	8.95	4.86	13.65	30.58	38.22	3.60	8.19	2.09	13.76	25.22	965	1:5.3
Sugar beet pulp.....	90.00	.42	1.25	2.05	6.14	.14	1.13	.13	1.84	5.53	164	1:6.7
Sugar beet silage.....	90.00	.31	1.46	3.14	4.70	.39	1.31	.35	2.51	4.23	165	1:5.7
Clover silage.....	72.00	2.60	4.20	8.40	11.60	1.20	2.00	1.00	4.40	9.20	382	1:7.9
Corn silage.....	70.62	2.50	2.70	9.68	13.69	.72	1.43	.58	4.49	9.58	312	1:10
Sugar beet pulp silage.....	70.00	.93	4.38	9.42	14.10	1.17	3.93	1.05	7.53	12.69	495	1:5.7

Comparing the average of mixed feed with that of bran we find that the latter contains about 1 per cent more flesh formers than does the former. The fat contents are practically identical, and the carbohydrates differ but slightly in the two averages. The fuel value leaves no choice between the use of the two feeds and the same is true of the nutritive ratio.

When we compare the mixed feeds with the average of middlings the result is not quite so favorable to the mixed feeds. The figures given for middlings are slightly higher than those stated for the average of the same material in the East. The middlings contain more protein or flesh formers than does mixed feed, and the fat percentages also range somewhat higher, as is seen from the figures 3.73 and 4.58. In consequence of the middlings containing more protein than the average of the mixed feed, its nutritive ratio is closer or narrower than that of mixed feed.

Oil-Cake Meals.—I have analyzed several samples of oil-cake meals, and one of the marked changes brought about by such work is noted in the case of linseed oil-cake meal. The first analysis made showed 18.25 per cent of fat, which was more than twice the figure, 7.59, given for the same ingredient in the average of many analyses made in the East. I procured two samples, one from a Berkeley mill and another from the Pacific Oil and Lead Works, San Francisco. The two analyses differ but slightly and the proportion of fat ranges much nearer that stated in the average just mentioned. The inspection of the figures for the protein or flesh-forming ingredients of this food shows that it is quite constant, although the fat content varies from about 5.5 to 18.25. Now, as linseed oil-cake meal is used as a concentrated nitrogenous feedstuff, it is the percentage of protein that must be considered when purchasing, and from the samples analyzed it would seem that the feeder is obtaining a constant product, no matter whence the source. The same can be said of cocoanut oil-cake meal, another much valued concentrated food. This material is finding more favor every year with the dairymen of this State. While not rating as high in flesh formers as either the linseed or cottonseed meal, it appears in many cases to be more relished by the animals. Cottonseed oil-cake is the richest of the oil-cake meals in nitrogenous matter, as indicated by the figures 47.25 for cottonseed as against about 20 or 30 for cocoanut and linseed oil-cake meals, respectively. The market price of these meals should tend to determine to some extent which would be most profitable to use.

Burr Clover and Sugar Beet Pulp.—The burr clover sample represented by the analysis given in the table was sent by Mr. Putnam of Petaluma. It is considerably richer in flesh formers and fat contents than was the sample analyzed previously.

I have analyzed several specimens of sugar beet pulp and beet pulp silage, and the averages are given in the table.

Corn and corn silage are inserted for comparison, as they are the ordinary crops subjected to the siloing process. The sugar beet pulp is one of the best materials that could be used as silage. The difficulties generally encountered in siloing, such as properly filling up of the corners of the silo, the proper tamping of the layers so as to completely exclude the air, etc., are not met with when sugar beet pulp is the fodder siloed.

The pulp as taken from the diffuser is in first-class condition for the silo. And when placed therein it fills up every inch of space and requires no special attention on the part of the man engaged in filling. Another advantage sugar beet pulp has is that it covers itself, forming a seal and thoroughly protecting the material below. Feeding beet pulp silage is attended with less difficulty than when using any other silage on account of the ease with which it can be removed from the silo.

Composition of the Pulp Silage.—The analysis presented in the table is from a sample sent from Los Angeles. The beet pulp contains more water and lower percentages of the different nutrients than is given for either corn or clover silage. It must not be forgotten though that while from forty to fifty pounds constitute the amount of silage part of the ration, in the case of corn or clover, about ninety pounds of beet pulp silage is fed per day. Hence it seems that more nutriment is assimilated per day from beet pulp than from either corn or clover.

In order to make a fair comparison of the three foods I have reduced the beet pulp to the same content of water as is contained in the other two fodders. The last line of the table shows the result of this calculation. From an inspection of the figures it will be noted that the beet pulp thus rates first with respect to nutritive ingredients.

THE Burlington railway has established a number of experimental farms in Kansas and Nebraska to show the settlers how to succeed with new crops and new methods, but especially how staple crops can be grown without irrigation by adopting culture methods which prevent evaporation. They expect to do much in this line through the growth of grain in drills far enough apart to admit summer cultivation.

FRESNO is getting quite a colony of expatriated Armenians. They are an educated class, of some means, and promise to be a valuable element in the community.

THE HOME CIRCLE.

The Silliest Question.

A dear little girl with eyes of blue,
And yellow curls and a dimple, too;
And we loved to tease her, as some folks do,
And ask her the silliest questions.

"Oh, what is Poppy, say, little Ann?"
"Poppy? Poppy? Why, Poppy's a man,"
She smiled at us brightly as onward we ran,
With the silliest, silliest questions.

"And what is Sissy?" The blue eyes gleam.
"Sissy's a gu-url," she says, with a scream
Of laughter as light as a rippling stream,
At this silliest, silliest question.

"And Botty? Botty is surely a toy
Of golden metal with no alloy?"
"Botty? Botty? Why, Botty's a boy."
The silliest, silliest question.

"Then, what is Mommy?" The blue eyes shed
A faint love glance, low drooped the head,
"Why, Mommy is Mommy," little Ann said
To this silliest, silliest question.

Oh, dear little girl with eyes of blue,
And yellow curls and a dimple, too,
Yes, Mommy is Mommy the whole world through;
So good-by to the silliest questions.

—Philadelphia American.

Mrs. Delt's Change of Air.

"I hear you are going to leave us, Mrs. Delt," said Mrs. Gray to her right-hand neighbor at the sewing circle on Thursday afternoon. "I hope it isn't true."

"Yes, it's true," replied Mrs. Delt.

"Really, I am very sorry. I thought you were settled among us for life. You will leave a lovely home; there are not many such farmers as your husband. Will you go to the city?"

"Yes; we shall rent the farm for a year and occupy a rented house in Murray. When the year is up we shall settle there permanently if the change is satisfactory all around. We are leaving a good home, to be sure, but farm work is so wearing; I think a year's vacation will do us both good."

"You are wise not to sell the farm. A good farm is better than a bank to fall back upon You were brought up on a farm?"

"On the stoniest old farm Vermont ever boasted. Father used to say that he had to file the sheep's noses so they could pick a living among the stones," laughed Mrs. Delt.

"But farming is so much easier in the West, don't you think?"

"It is different, of course. The farms are larger though, and a farm is a farm anywhere. Plenty of work outdoors and in. But on the whole I would not exchange for an Eastern farm."

"About your going away," resumed Mrs. Gray resolutely, with an intention of getting down to the real cause, which was as yet a matter of speculation in her mind. "Why are you dissatisfied here?"

"There are things I cannot be reconciled to in the country, Mrs. Gray. As you know, I like to go to church twice on Sunday, and would go if I lived near enough. Then I crave more society. Not that I do not esteem my country friends. But they are so far apart, and it takes so much time to see them all; they are not satisfied with a call, but I must go and take my sewing and stay to dinner or tea Of course, they return the favor, and, when one has a large circle of friends, think of the time it takes to make and receive such visits, to say nothing of preparing meals for unexpected guests, for you know it is not thought worth while to send word beforehand. Then there are the children," continued Mrs. Delt, as she cut a buttonhole in a shirt sleeve. "They are coming up shy and awkward, and are easily embarrassed in the presence of strangers."

"They are only modest and ladylike!" broke in Mrs. Gray. "Such girls make the best women, I've always observed."

"Perhaps. But country life is not restraining and refining enough. They have so little opportunity to see fashionable people that their ideas and, consequently, their manners will not be up to the required standard of the day."

"If I had girls I'd rather they'd be a thousand years behind the 'standard of the day' than be the butterflies of fashion some girls are, and think of nothing but dress and beaux!" exclaimed Mrs. Gray.

"Certainly, my dear, certainly," assented the other lady, unruffled, "but, then, you'll admit there is a middle course. I never believed in going to extremes in anything." Mrs. Delt tore off another shirt band and resumed: "I have always wanted leisure for study and reading, and get so little. There is always something to be done in a farmhouse."

"There is anywhere, if one has a mind to be forever working," declared Mrs. Gray.

"Oh, it's different in town; it must be. There are no hired men, or harvesters or threshers; no corn pickers, summer boarders or butchering days; no grain sacks to mend, or butter to make, or cheese to press, or overalls to patch. I tell you I have placed item for item, and the weight goes down on the farm side. I know I shall begin to live and grow young again when we are fairly off the farm."

The Delts packed up March 1st and moved to town, and the farm was turned over to a family of Swedes. Mrs. Delt soon discovered that her carpets and furniture, which had been the pride of her country home, looked shabby and out of date in a fashionable city house. They could not afford to throw aside the old and buy new, and this was thorn number one in Mrs. Delt's side. Their clothing was found to be "countrified"—thorn number two—and Mrs. Delt gave herself no peace until the family wardrobe was overhauled and rejuvenated to the extent of her skill. By the time she was ready to enter upon the long-planned-for rest and course of solid reading she was dull and weary, and the summer months were coming in hot and enervating.

Time passed. One day in the following February Mrs. Gray looked out and beheld a familiar figure coming up the path. A moment later the homely, honest face of Farmer Delt looked in at the kitchen door.

"So you are out at the farm?" said Mrs. Gray, after the greetings were said. "Did Mrs. Delt come with you?"

"Not this time. But she'll be along the next trip, I reckon," with a twinkle in his keen, blue eyes.

"She isn't coming to stay, is she?" queried Mrs. Gray, her eyebrows lifting her spectacles well off her nose in their expression of surprise.

"You'll have a chance to ask her before this time next week, I guess," with a meaning look. "We're all packed up ready to move down as soon as the house is vacant. Mr. Bronsen has rented the Sole farm and will move over Monday."

"So Mrs. Delt does not like the change after all? Or does she come back reluctantly?"

"Not a bit of it! No, indeed! I had to come to suit her, for, though I always liked the farm, I liked the town well enough. But Maria's peculiar, you know that, Mrs. Gray. She got discontented on the farm, thinking she was having an awful hard time of it. You remember how she used to talk—no advantages, no time for visiting, or 'tending lectures and such. She harped night and day until I couldn't stand it. I see that nothing but a change of air would cure her, so says I, 'We'll go to town and try it a year.' Well, it didn't turn out exactly as Maria had calculated.

"Of course, being a church member, she 'tended all the meetings, and that took two or three evenings in the week. Then she joined the W. C. T. U. and the Ladies' Aid, and the Emerson Club, and the Economic Association, and one or two others, and it seemed like there wasn't no time for anything. I never saw a woman so drove. She was down for committee on one thing or 'nother the whole time until she didn't scarcely get time to eat her meals for trotting around soliciting contributions or making 'rangements about fairs and similar performances. She'd come home all tuckered out and crosser'n a bear, and that was something new for Maria. I learned to sew on buttons beautifully; had to, you see, her time was so took up.

"The hired help was the great trial to Maria. Them city girls have got the gall, I tell you. They'd flare up at most nothing and leave, maybe, with the house full of company. It worried Maria worse than doing her own work on the farm ever did. Another thing that bothered her was the neighbors' children. They used to come over in squads to visit our girls, and the way they'd tear 'round was a caution. If our girls happened to be away they'd set out on the porch waiting for 'em to come, and they'd look in the windows and flatten their noses and lips against the pane and tramp on the flower beds and holler until Maria'd have to hire 'em with cookies or candy to go home and stay there. Maria declared she never saw such ill-bred young ones, and said she could see our girls wa'n't improving any by such 'sociations.

"Then there was the agents for everything imaginable, and canvassers and peddlers and solicitors and beggars that made you wish you lived on a rock in the middle of the Pacific ocean—anywhere so't you could get a little peace of your existence. I really think Maria was rather popular, jedging by the afternoon callers she had. She's a pretty fair talker, Maria is, and gets 'quainted quick. She never pretended to do anything much after dinner, only receive calls and read a little, for she said she just had to keep up with current literature, so she could understand what people were talking about.

"It run along that way till a few weeks ago, and Maria'd got so thin and nervous I begun to get worried. She missed the cream and fruits and poultry and nice vegetables we had on the farm, for those things cost like the dickens in town, and we couldn't 'ford to have 'em as plenty as we used to. I could see Maria was getting homesick, but I didn't say anything. One day when I spoke 'bout renting the farm for another year, she says: 'Oh, Peter, I wish you wouldn't! Let's go back there and stay, I am tired of this kind of life. It isn't a bit as I expected. There is no quiet or rest for any of us; it's go, go, all the time, and I am sick for my cosy little sitting-room, where I can read or write all day with no one to interrupt. That girl in the kitchen nearly drives me wild; when she isn't breaking my china or cut glass, she is singing negro ditties at the top of her voice or whistling like a steam engine. Mrs. Glenn is getting to be a regular affliction, too, though I liked her so much at first; she runs in at all hours, and stays and stays, and hinders me so I cannot be civil to her, hardly. I'm glad we didn't sell the farm. I'll never envy city women again. But I'm not sorry we came to town, for I might have gone on being unhappy all my life. Now, it will be different. I shall know how to appreciate my home and simple-hearted friends and country-trained domestics. Some folks can stand the wear and tear and noise of city life, but they're not like me. It seems to me if I can hear the old red rooster crow every morning, the way he used to, it will be sweeter music than any church bell."

Mrs. Gray was so absorbed in this bit of information that in a fit of absent-mindedness she emptied a cupful of milk into the fire, and laid a stick of stove wood in her china closet. At this point Mr. Peter Delt prepared to depart, with the remark: "You must come over and see Maria as soon as we get moved, Mrs. Gray. She'll be dreadful glad to see you, and pretty busy, too, till after housekeeping and settling."

"Yes, I'll come," she replied, as the door closed on his ample figure. "I don't envy them the job of getting the house rid of bedbugs," she whispered to herself. I wonder what ails the fire, to sizzle so!"

Church bells are tuned by clipping the edge until the proper note is obtained.

Gems of Thought.

True humility, the basis of the Christian system, is the low, but deep and firm, foundation of all real virtue.—Burke.

We can only have the highest happiness, such as goes along with being a great man, by having wide thoughts, and much feeling for the rest of the world as well as ourselves. And this sort of happiness often brings so much pain with it that we can only tell it from pain by its being what we would choose before anything else, because our souls see that it is good.—George Eliot.

Beasthood is the great fact of human history. It exists in some form. How shall it be controlled and kept under? It is this which constitutes the one problem of government and of society in all our communities, poisoning all domestic life, making hearths bitter and hearts hopeless. It is the one problem of all personal life, of yours, and mine, and of our families. No woe is so great as that which sees the manhood and womanhood going down in sensuality to the devil.—Rev. S. E. Herrick.

Can it be possible that a man, a human from, to whom homage is paid both by animal and vegetable; the focus of ingenuity; the wonderful exposition of cause and effect; the living poem of perfect measure; the mechanical wonder of the world; was born and created to grow; and, having done his best to injure or benefit mankind, he, a perfect score in the plan of creation, shall cease to exist when the body sinks; and the soul stained with sin shall meet with no just punishment, when laws against sin govern this world? Or, if he has raised the lowly, forgiven the erring and relieved the suffering and needy relative, is to be blotted out even as a worm is trodden down, and reap the benefit of no approving conscience?—S. W. Francis, M. D.

Curious Facts.

The spider's eyes are not in his head, but in the upper part of his thorax.

Of British birds the cuckoo lays the smallest egg in proportion to its size.

Leuenhouck says that the common caterpillar has not less than 200 muscles.

A distinctive peculiarity between sharks and whales lies in the fact that the former have eyelids and the latter none.

Ornithologists have discovered that crows have no less than twenty-seven different cries, each distinctly referable to a different action.

The flags to be hoisted at one time in signaling at sea never exceed four. It is an interesting arithmetical fact that, with eighteen various colored flags, and never more than four at a time, no fewer than 78,642 signals can be given.

The largest oak log ever cut and hauled in that section was taken to Pinney's sawmill in Stockbridge, Mich., recently. It measured 4100 feet. It lacked but a few inches of being six feet across the butt. It was drawn in four places, making four good-sized double team loads.

In Persia, among the aristocracy, a visitor sends notice an hour or two before calling, and gives a day's notice if the visit is one of great importance. He is met by servants before he reaches the house, and other considerations are shown him, according to relative rank. The left and not the right is considered the position of honor.

The common purslane is one of the wonders of botany, as far as seeds are concerned, at least. A single seed of this plant will produce about twenty seed pods in a season. The average number of seeds in each of these, by actual count, is six thousand, making sixty thousand in all. As far as we have been able to learn there is no instance of similar fruitfulness in any plant found growing in this country. A single plant of either the Jamestown weed ("jimson"), the butterweed, the ragweed and some of the vervines

produce an enormous number of seeds, but it is doubtful if any one of them produces one-fourth as many in a pod as the purslane does.

Popular Science.

The temperature of the sun's surface is greater than we have anywhere on the earth. The temperature of the sun's surface has been measured and determined to be between 12,000° and and 20,000° F.

Boiled milk requires much more digestive effort than does the unboiled material, as in the latter case the serum albumin and nucleated cells, it is said, are absorbed directly by osmosis without any chemical change. Milk may be pasteurized (warmed to 160° F) without interfering with its digestibility by coagulation of the cell and serum albumin.

The heat of the moon is only about one one hundred and sixty thousandth part of that which we get from the sun. The moon's temperature is about that of the freezing point. A strange unexplainable phenomenon is that when the moon is eclipsed its heat suddenly disappears, and does not come back for an hour and a half after the eclipse is over.

A very low temperature, 400° below zero, has been shown to have a remarkable effect upon the color of many bodies. The brilliant scarlet of vermilion and mercuric iodide is reduced, under its influence, to a pale orange, the original color returning with the raise of the temperature. Blues are unaffected by cold and the effect is comparatively small upon organic coloring matters of all tints.

As to the age of the Niagara Falls, geologists differ widely in opinion. At first it was estimated that the Niagara river came into existence, through changes in the level of the land around the Great Lakes, about 55,000 years ago. Later this was reduced to only 12,000 years. The celebrated geologist, Sir Charles Lyell, increased the estimate again to 35,000 years; but more recently others have lowered it to about 9000 years. The latest estimate is that of Dr. J. W. Spencer, who, basing his conclusions on the most recent investigations, places the age of the river at 32,000 years, that of the cataract at 31,000 years. At one period, many thousand years ago, the height of the falls was 420 feet.

Fashion Notes.

A novelty costume is made of garnet velvet. It is cut in princesse shape, and has a most unique and stylish arrangement at the front of the waist. A yoke of shirred satin extends below the bust. The front breadth of the skirt has an extension which overlaps the yoke and fastens at either side with jeweled ornaments. The sides of this extension are curved away under the arms, and at one side there are invisible fastenings, so that in the front of the dress no closing appears. The sleeves are close fitting, with deep cape-shaped sections falling from the shoulders. There is a high collar of black satin, also black satin cuffs.

Embroidery is simply a rage. Never has there been so much, and never has it beeu so elegant. A dress of wood-brown broadcloth is embroidered with woodbine leaves in the bright autumn colors with which every lover of nature is familiar. There is a band around the lower edge of the skirt, detached sprays on the front breath, and a fine line of the same trimming around either sleeve. The lapels and collar are similarly trimmed. With this costume is worn a hat made of brown and red velvet with velvet loops and dark-brown quills.

Some of the fawn shades and pinkish French grays this season among satins, lustrous corded silks, ladies' and Venetian cloths, camel's hair goods, brocades and finely repped wools are exceptionally beautiful. As a rule neutral tints, or those combined with pale, soft colors (as for example a fawn colored corded silk gown, with a vest of pink chiffon over pink rep), are more becoming to women whose type is not strictly to be defined as either fair or dark than are pronounced colors.

A lovely gown of shimmering gray satin in the trousseau of an autumn bride is made with a seven-gored skirt, exceedingly full at the back. This elegant skirt is untrimmed, but lined throughout with rose-colored taffeta silk. The bodice has a ceinture of gray velvet, a bolero to match, lined with rose satin and trimmed with frosted pearl and cut steel passementeries. The half-vest reaches from the throat to the top of the ceinture, and is made of gray chiffon over rose satin.

DOMESTIC ECONOMY.

Dolly's Sponge Cakes.

Come, Mabel, put your apron on,
And tuck your sleeves up—so.
Now wash your hands all white and clean,
And then we'll mix the dough.

First, two eggs open carefully—
The gold and white apart—
Then with a fork or wire spoon
Beat yolks with all your heart.

A half cupful of sugar next—
The granulated kind—
When well stirred in the golden froth
A creamy mass you'll find.

The same of flour—half a cup—
Through which you mix so well
A pinch of baking powder pure,
And a bit of salt;—'twill tell.

Now beat the whites until they stand
A glistening heap of snow—
And lightly stir with dainty touch
That froths into the dough.

Now bake in several shallow pans,
Well buttered they must be,
Then jelly spread between the layers
And serve at dolly's tea.

—Martha B. Tausig, in Good Housekeeping.

Domestic Hints.

Honey Fruit Cake.—Four eggs, five cups of flour, two cups of honey, one cup of sweet milk, two teaspoonfuls of cream of tartar, one teaspoonful of soda, one pound of raisins, one pound of currants, half a pound of citron, one teaspoonful each of cloves, cinnamon and nutmeg. Bake in a slow oven. This cake will keep a long time.

Brown Betty.—Butter a deep pudding dish, and place a layer of finely chopped apples in the bottom; then add a layer of very fine bread crumbs, sprinkle with sugar and spice; add a little butter, then another layer of apples, and so on until the dish is filled. The top layer should be of the crumbs seasoned to taste. Bake in a moderate oven until quite brown, and serve while hot, either with sweetened cream or hard sauce.

Mushroom Salad. — A mushroom salad is thought to be a great treat by many, and is particularly nice to serve with cold game. Cut the mushrooms into small pieces and cook them in a little olive oil, letting them simmer fifteen minutes. Add some lemon juice, and stand them on one side until cold. Place the cold mushrooms in a salad bowl, and season with salt and pepper, some chopped parsely and a suspicion of onion juice. Cover the whole with a mayonnaise dressing, and it is ready to serve.

Sago and Claret Soup.—A cold soup that is both nutritious and stimulating is made from sago and claret. Take four ounces of sago, wash it thoroughly, put it iu half a gallon of cold water. Cook it slowly until it is transparent. Add to it eight ounces of granulated sugar, stir until dissolved, and season with a dash of nutmeg, a dash of red pepper and a level teaspoonful of salt. Remove from the fire, add a bottle of good claret wine. Mix, and if too thick, thin with cold water until the right consistency for a cream soup, which you will remember should be like thin cream, or so that it will just mash with the spoon. This is a very nice soup for an eleven o'clock breakfast if given on a very hot day.

Aluminum Cooking Utensils.

At a recent meeting of the Congress of Applied Chemistry Mr. Boroma spoke of aluminum as a material for cooking utensils as follows: "The utility of an aluminum dish, in respect to its fitness for culinary vessels, depends on the purity of the metal. A pure aluminum dish is almost, if not quite, as resistant to solvent effects of ordinary foods as any common metal. The impurities which do the most harm are sodium and carbon. When the aluminum contains carbon an electric current is at once set up when a suitable liquid is applied. In such cases after water, especially if it be saline, has stood in the dish for one or two weeks, the surface will be found dotted with brilliant rings, and, on scraping off the aluminum, the particle of carbon will be disclosed. If a strong solution of salt be used, the action may be sufficient to cause a perforation of the metal. The aluminum of commerce, unfortunately, is not very pure, and it is for this reason that so many aluminum dishes have shown a rapid deterioration. The French troops in Madagascar have been supplied with fifteen thousand sets of aluminum dishes, and, when a soldier has to carry his kitchen with him, the importance of lightness is not to be despised. But, even granting that in cooking in aluminum dishes a small amount of alumina is introduced into the food, it has not been shown that it exercises the least harmful action on the digestion. The experience of two men may be cited who lived for a year on food prepared exclusively in aluminum dishes without the slightest impairment of their health."

Hints to Housekeepers.

If corks are too large for the mouth of the bottles for which they are intended soak them in boiling water for a short time, and they will soften so that they may be easily pressed into the bottles.

It cannot be said too often that sand or flour sprinkled over burning grease or oil will put out the fire. A box filled with sand, kept in a convenient place, should be found in every household to be ready in case of necessity, particularly where lamps are generally used.

Canary birds enjoy a change of food occasionally as well as persons do. Hard-boiled eggs chopped fine, mixed with cracker crumbs and a speck of cayenne pepper, is very good to feed to these pets once in a while, giving them a small amount at one time. They will reward you with their sweetest songs.

Many tall persons complain that the bedding will work itself free at the foot of a bed, no matter how carefully it may have been tucked in. Such people should try laying a small fold in the upper sheet at the bottom of the bed when putting on the covers. This will prevent the feet from having a drawn or close feeling, and obviate the desire to lift the clothing with the feet and pull them up from the bottom.

In washing chamois skins have the water just warm, and add a little ammonia to it before putting in the skin. Press and shake, but do uot wring the skin to remove the moisture, and hang it where it will dry quickly. Frequently stretch and pull the skin while it is drying, aud hang it from different corners so that it will dry evenly. Treated in this manner the skin should be as soft as when new.

It is said by those who should know that dark clothes absorb infection from contagious diseases much more readily than light clothes. This is a reason why nurses should wear light-colored clothes of cotton. Woolen absorbs infection more readily than cotton, and cannot be so readily cleaned. This may be tested by exposing a dark woolen coat in a closet to the fumes of tobacco, and also a cotton dress. One will be found to smell stronger than the other.

To improve the color of white cloths and clothing that have been washed a spoonful of borax dissolved in a little hot water should be added to the last water in which they are rinsed. It will whiten the clothes very much. Another hint for the laundry is to add a little dissolved gum arabic to the boiled starch used for linen collars, cuffs, and the bosoms of shirts. Frequently salt is also mixed with the starch.

In washing silk handkerchiefs care should be used to prevent their turning yellow. A silk handkerchief should never be boiled nor have soap rubbed upon it. Make a lather of finely shredded white soap and hot water. Clean the handkerchiefs and rinse them in plenty of cold water to thorughly remove all the soap. Press out all the moisture possible and dry quickly in the sun, ironing them while they are still damp, but not wet.

To Clean Carpets.

To clean a worn and dingy wool carpet proceed as follows: After giving the carpet a thorough beating to remove all loose dust, let it hang on the line a few hours to sun and air. Then spread it on the floor of a room where a good circulation of air can be secured. Make a suds of soft water and soap with a spoonful of household ammonia to a pailful of suds. Have another pail of clear soft water and a large woolen cloth to rinse with. Use a clean scrub brush with the suds, scrubbing a small square of the carpet thoroughly, then rub with the cloth dipped in the clear water, and wipe as dry as possible. In this way the entire carpet can be cleaned, and will look enough better to pay for the trouble. The soap will remove the dirt without injuring the colors, while the ammonia will brighten them. Wool rugs may be treated in the same way. Small rugs, if preferred, may be dipped in the suds and shaken about or scrubbed on a board until the the dirt is removed, then rinsed, run through the wringer and dried on the line. Straw matting may be cleaned by scrubbing with salt and water, then rinsing with clear water and wiping as dry as possible with cotton cloths.

Did you ever think of furniture as a Christmas gift?

It makes an ideal gift; it gladdens the heart of the recipient, besides adds cheer and comfort to the whole house.

Books accumulate fast about the holidays. Wouldn't a bookcase make a first-rate gift for mother?

Picture shows one. Solid oak, with neatly carved design in top, adjustable shelves, and the price is only $6.

You're welcome to a catalogue if you want it.

California Furniture Company.
(N. P. COLE & CO.)
117 Geary St.,
San Francisco.

Patrons of Husbandry.

The National Grange.

Worthy Master Greer has returned from his trip to Washington and furnishes the RURAL PRESS with the following summary of the doings of the National Grange:

The 30th annual session of the National Grange, which convened at Washington, D. C., was eminently a national assembly. Twenty-nine States were entitled to representation, one more than last year. Past Master Wm. Saunders, one of the founders of the Order, delivered the address of welcome, which was responded to by Master Brigham. The first few days of the session were taken up with the presentation of officers' reports and the reports of State Masters. Master Brigham, in his annual address, favored the work of the organizer, rural mail delivery, strengthening the Department of Agriculture, opposed the single tax theory, wanted economy and just taxation, advocated concentration in our legislative efforts, believing we should concentrate our efforts on one or two measures.

The secretary reported 169 new Granges for the year, and a total membership October 1st of 161,635.

The treasurer reported the finances safe and sound. Master Robertson of the Dominion Grange was present, the first time in eight years. He was given a hearty welcome, and addressed the Grange at length.

The session was a very conservative and quiet one. While many changes were suggested in the constitution and ritual, only two were made, both relating to Pomona Granges. In a legislative way very little was done. The session, however, was full of interest and many able and practical reports upon many of the leading issues of the day were discussed and adopted. Educationally, considerable was accomplished, and one evening was set aside and especially devoted to lecture work.

The annual reports of the different State Masters were very encouraging, and showed the Order generally to be in a very prosperous condition. The association of college and experiment station workers, which was in session at Washington, paid the National Grange a visit, when greetings were exchanged and addresses made by members of the association and the Grange.

National Commissioner of Education Harris and Dr. C. W. Dabney, Jr.; Assistant Secretary of Agriculture, also favored the Grange with a visit.

The degrees were conferred in full form and on Saturday afternoon of the first week the Grange was tendered a reception by President Cleveland at the White House.

During the second week at the meeting, in addition to the usual Grange work, the Interstate Commerce Commission called and Commissioner Knapp delivered an interesting address.

Congressman H. M. Baker of New Hampshire, a member of the Order in that State, spoke upon the advantages to the farmer of organization.

During the session the Grange was given a complimentary excursion to Mt. Vernon by members of Virginia and Maryland State Granges. A visit was also paid to the National Cemetery at Arlington, the old home of General Lee, and on Sunday morning the Grange, by invitation, attended worship in the old Presbyterian church and listened to the gifted Talmage.

The Committee on Resolutions, among other things, demanded the election of United States Senators by direct vote of the people, pure food legislation, free rural mail delivery, a stable currency, equal protection for the farmer, favored arbitration whenever it can be resorted to without sacrifice of honor, congratulated the Grange that political differences and heated contests had made no difference in the fraternal feeling of the Order, and pledged the united support of the Order to the country and the flag.

The Committee on Education requested that agriculture be taught in all rural schools and that high schools be established in every town.

The report of the Committee on Good of the Order contained many valuable suggestions, recommending the adornment and beautifying of Grange halls and grounds.

A resolution was passed authorizing a committee to call upon President-elect McKinley and urge him to appoint a practical farmer for Secretary of Agriculture.

J. H. Brigham, N. J. Bachelder and John Trimble were elected as the Legislative Committee for the year.

L. Rhone was elected a member of the Executive Committee and Pennsylvania was chosen as the place of meeting in 1897. As soon as the proceedings of the National Grange are printed a copy will be sent to each Grange. I would recommend a careful reading of the contents of the journal, especially the reports of the various committees. The different committee reports might be read at the subordinate Grange meetings by the Lecturer.

Your representatives returned home safe and sound and in good condition to resume Grange work in this jurisdiction.

During the session of the National Grange California representatives were accorded every privilege and courtesy to which they were entitled. They were present at every session and endeavored to the full extent of their ability to faithfully represent their State and do their duty as they understood it.

From Tulare Grange.

Tulare Grange held its regular meeting on Saturday, the 5th inst. Bro. Shoemaker read an extract from an Eastern paper describing a road improvement in New Jersey. Before the improvement no purchasers could be found for the land. Then a fifty-five-bushel basket was a load for four horses and two and a half tons of produce took two men and four horses a full day to take it to market and take back a load of fertilizer. Now two horses haul 90 to 125 bushel baskets and one man and two horses take four tons of produce to market and make four trips a day. There must be economy in good roads.

Bro. Zumwalt spoke about the repairs now being made on the public roads, commending the same for being done in the early part of the winter when the rains will cause the land to settle, the roads ploughed in the spring remaining soft and dusty all through the summer.

The programme for the Farmers' Institute to be held in this place on the 23rd and 24th of January was taken up and subjects for discussion and consideration selected and submitted to Mr. Edward F. Adams.

It is intended to have one lecture on "Agricultural Education in the Public Schools," and to invite the High Schools of Tulare and Visalia to be present, giving awards first, second and third to the pupils who make the best reports. It is also intended to hold one forenoon session at the U. S. Experimental Station and have the work of the station explained and the results described. Good results have been had from the work done at this station and good work is now being done here. It should be better known and better understood than it is. The Grange believes that the farmers will, after seeing the work and having it explained on the ground, derive more benefit and think better of the station than they otherwise would.

Election at Yuba City.

At its last meeting Yuba City Grange elected officers as follows: Master, Glen Harter; Overseer, Lon Graffis; Steward, J. J. Pratt; Assistant Steward, Geo. Ohlever Jr.; Chaplain, Josie Walton; Gate Keeper, Mrs. Newcomb; Lecturer, Etta Gray; Secretary, Mrs. Hattie S. Walton; Treasurer, B. F. Frisbie; Pomona, Alice Robinson; Ceres, Rose Gray; Flora, Nellie Brophy; Lady Assistant Steward, Miss Stoker; Organist, Mrs. B. F. Frisbie.

Co-operation From a Farmer's Standpoint.*

By C. Nisson, Official Correspondent of Two Rock Grange.

NUMBER 1.

Although co-operation in its widest sense is the main principle of our Order, and is even urged upon Patrons, very little has really been accomplished, considering the numerical strength of the Order. It is not that farmers do not realize the great advantage of acting together, or the disadvantage they always have been and are laboring under by being divided and so mercilessly a prey to most all other classes of citizens. If we think back to the time when the Grange first started, and remember how the farmers fairly swarmed into it, when they thought they saw some promise of relief in it from the existing state of affairs, and how, later on, the same thing was witnessed when the Alliance started, it must convince any one that a desire for a change and a willingness to co-operate has always been, and is yet, very strong.

That so little has so far been accomplished is so much more a pity, when we consider that the country at large must suffer with the farmer. When other classes can unrestrictedly prey upon the agricultural class, it is only a question of time when the goose that lays the golden egg must perish and all with it. It would be well if our commercial and manufacturing classes, as well as the transportation companies, could be made to realize this fact. They would then not only not oppose the farmer in his efforts to improve his conditions, as they too often do, but assist him; not consider him as a prey, but as a partner. If they more fully understood that their welfare entirely depends upon his, that what is good for the farmer is good for all, they would not allow laws to be passed that add to his already too large burdens; they would not forever be scheming how to make the most out of him, giving the least possible in return; they would not, as now, always compel him to be on the defensive, to fight for his existence against those whose very existence even depends upon his.

Still, even if it were necessary for the farmers to battle alone for their own and our country's good, they could do it successfully if they were but thoroughly organized and understood how to work together. This understanding we sadly lack. In fact, propositions calculated to benefit farmers meet often the greatest opposition from farmers themselves. When, for instance, some years ago the Stanford bill, authorizing the Government to loan money directly to farmers at a very low interest, was introduced, the Grange could have stepped in and supported with all its might the spirit of that bill. If the bill itself was not worded or framed in such a way as to make it clear or easy of being carried out, it could have been altered. Few bills pass without amendments. But the Grange gave it the cold shoulder. It was discussed at our own State Grange and Brother Hale of Connecticut, who was present, spoke vigorously against it; said it was class legislation; it benefited only the farmer; it ought to be condemned. And it was!

Take the Lubin plan. What encouragement does it meet with outside of California, in spite of the vigorous manner in which it is being pushed by Mr. Lubin? Mr. Lubin's plan may not be the best that could be devised to give justice to the agricultural class, but it should be thoroughly examined into by our lawmakers and we should insist upon it that, unless something better can be proposed, it be given a trial.

Mr. Stanford, as Mr. Lubin, had seen the injustice done to the agriculturist and the harm to the country resulting from it. We farmers have but poorly appreciated their patriotism. Can we expect our lawmakers to make laws for our benefit?

In the more enlightened of the European governments the interests of the farmers are far better taken care of. Some fifty years ago these countries began to relay, grade and macadamize their country roads, and the work is still going on on a large and expensive scale, the cost being borne by all classes alike. Laws detrimental to the agricultural class would not be tolerated for a moment. Some of their laws, at first sight, seem almost one-sided in favor of agriculture, as, for instance, some of their drainage laws. Every encouragement to increase his crop and get it to market at the last expense is the object sought. These governments do not do all this because they have a special love for the farmer. They do it simply for the same reason the intelligent dairyman feeds and treats his cows liberally: to make as much as possible out of them.

We have not even reached that state of intelligence. Through co-operation we will get there. But we are only in the A B C class—all of us. The class rooms are the subordinate Granges.

Two Rock Grange is up for recitation now. In future numbers of the Grange organ it will recite the lessons it has learned through experience. But do not expect too much. We of Two Rock are but beginners also, and a poor spokesman has been chosen.

*[The RURAL PRESS disclaims responsibility for economic theories or opinions put forth by correspondents where names are signed to their articles.—ED.]

Election at Tulare.

Tulare Grange has elected the following officers for the ensuing year: Worthy Master, Sister Zumwalt; Overseer, Thos. Jacobs; Lecturer, Mr. Tuohy; Steward, Mr. Shoemaker; Assistant Steward, Mr. Styles; Secretary, C. J. Berry; Gate Keeper, A. J. Wood; Treasurer, Sister Forrer; Pomona, Sister Blain; Flora, Sister Gill; Ceres, Sister Ingham; Lady Assistant Steward, Sister Berry. Installation the first meeting in January. Initiation at the same meeting.

For the benefit of brothers and sisters coming from a distance a lunch was spread in the hall, which added to the sociability and enjoyment of the meeting so much that it is intended to keep it up.

The Grange and the Secretaryship of Agriculture.

The following resolution was adopted by the National Grange at its recent meeting in Washington:

WHEREAS, This National Grange has placed itself on record to favor the appointment of a competent and practical farmer at the head of the Department of Agriculture, therefore,

Resolved, That a committee of three be, and is hereby, appointed, consisting of Aaron Jones of Indiana, O. H. Hale of New York and George B. Horton of Michigan, to wait upon Hon. William McKinley, President-elect of the United States, to urge that a practical farmer be honored with a seat in his Cabinet; and that said member be a Patron of Husbandry, in recognition of the wisdom and labor of our Order in the creation of said Department of Agriculture.

After the adjournment of the National Grange the committee above named called on the President-elect at his home at Canton, Ohio, and urged him to appoint Worthy Master Brigham of the National Grange to the Secretaryship. Mr. McKinley's reception of this suggestion and of those who made it was most cordial, but he gave no intimation as to his purposes.

Notice of Shareholders' Meeting.

The annual meeting of the stockholders of the "Grangers' Bank of California" (a corporation) will be held on TUESDAY, the 12th day of January, 1897, at 10 o'clock P. M., at the office of said Bank in the California Safe Deposit and Trust Co.'s building, corner of California and Montgomery Sts., in the City and County of San Francisco, State of California, for the election of Directors and transaction of such other business as may be submitted for their consideration. H. M. LARUE, President.
Dated December 9, 1896.

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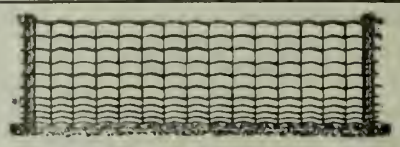

Mixed Farming Best.

With favorable weather, wise management and a good market, the specialty farmer sometimes makes a grand showing. However, mixed husbandry is safer, and in the long run will usually give best results. Where a variety of domestic animals are kept, Page fence will be found not only a luxury, but almost a necessity. See catalogue.
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The Amount of Water in the Earth's Crust.

W. B. Greenlee, in the *American Geologist*, writing on this subject, says:

Assuming that the earth is saturated with water to the depth of one mile, we have next to determine the relative amounts of its constituent rocks and their respective porosities.

The surface of the earth may be divided into two divisions—first, that covered with sedimentary rocks and, second, that covered with igneous and metamorphic rocks. To ascertain the relative areas, the United States and Europe were selected as typical of the land surface. The results showed that 31.2 per cent of the surface of the United States is covered with igneous and metamorphic rocks.

In Europe each country was separately divided and the percentage of the respective sums taken. This proved to be 19.8 per cent. An average of these results, by coincidence, is 25.5 cent, or, roughly speaking, three-fourths of the land surface of the earth is covered with sedimentary rocks having an average thickness of one mile.

The most accurate determination of the porosities of rocks has been made by Prof. Bauschinger of Munich. He found the average porosity of upward of 300 specimens of sandstones and limestones to be 20 per cent of their volumes. Two per cent may be taken as a low average for igneous and metamorphic rocks.

The most recent and careful computation of the respective areas of sea and land on the earth's surface is that by M. Thoulet in his "Oceanographie." This he gives as 368,000,000 kilogrammes for the sea and 142,000,000 kilogrammes for the land; or, reduced to square miles, 142,084,860 and 54,826,200 respectively. Three-fourths of the land is 41,119,650 square miles and one-fourth 13,706 550 square miles. Taking 20 per cent of the former and 2 per cent of the latter, and adding, we get 8,498,061 cubic miles of water.

Thoulet estimates the volume of the oceans at 1,347,874,850 cubic kilometres, which, reduced to English measure, equals 318,191,728 cubic miles.

The estimated amount of mechanically contained water in a section of a mile over that part of the earth's crust covered by land is thus 2.7 per cent of the water now on the earth's surface, or a layer 88 feet deep over its entire surface.

There is undoubtedly a large amount of water below one mile, but we can only conjecture as to the amount, nor does this estimate include that chemically contained. No estimate was made of the amount of water beneath the bed of the ocean, as we have no way of knowing of what it is composed or how thick the permeable layer is. This, too, would increase the total.

List of U. S. Patents for Pacific Coast Inventors.

Reported by Dewey & Co., Pioneer Patent Solicitors for Pacific Coast.

FOR THE WEEK ENDING DECEMBER 1, 1896.

572,103.—SPRING HEEL—J. Bresman, S. F.
572,353.—AMALGAMATOR—W. L. & C. Brown, S. F.
572,469.—CIGAR TRAY—J Buchtel, Portland, Or.
572,331.—TOILET PAPER HOLDER—E. D. Casterline, San Jose, Cal.
572,408.—SASH FASTENER—C. J. Clarke, Kingsburg, Cal.
572,416.—CAR COUPLING—T. Fales, Bridgeport, Cal.
572,342.—REFINING BULLION—F. Gutzkow, S. F.
572,200.—SOLDER—G. Hammond, Mulberry, Cal.
572,167.—VENTILATED RECEPTACLE—W. E. Howell, Los Angeles, Cal.
572,360.—CAN HEADER—R. D. Hume, Gold Beach, Or.
572,362.—FLOUR DREDGE—W. D. F. Loryea, S. F.
572,305.—WIRE ROPEWAY—J. T. Ludlow, S. F.
572,345.—BUNG—C. J. Meyerholz, Mountain View, Cal.
572,310.—DENTAL ENGINE HAND PIECE—C. O. Perkins, Petaluma, Cal.
572,127.—ROTARY ENGINE—R. Schlegel, S. F.
572,224.—FRUIT DRIER—A. B. Shearer, Arroyo Grande, Cal.
572,320.—CARD CUTTER—P. J. Stuparich, S. F.
572,387.—BOTTLE—M. & L. W. Tebbetts, San Diego, Cal.
26,358.—DESIGN FOR HOSE NOZZLE—Kelly & Olson, Seattle, Wash.

NOTE.—Copies of U. S. and Foreign patents furnished by Dewey & Co. in the shortest time possible (by mail for telegraphic order). American and Foreign patents obtained, and general patent business for Pacific Coast inventors transacted with perfect security, at reasonable rates, and in the shortest possible time.

One-third of all Harvesting Machinery in use is made by the McCormick Co. of Chicago

Uncle Sam's Guns.

Secretary Lamont in his report says that July 1, 1893, but one high-pressure gun was mounted for coast defense. By the 1st of July next we will have in position seventy high-power breech-loading guns and ninety-five breech-loading mortars of modern design, and by the following July, on completion of work already under way or provided for, 128 guns and 153 mortars. The battery of two or three of these guns takes the place of the former pretentious fort and is vastly more effective. An 8-inch gun weighs 14½ tons, is 23½ feet long, requires a powder charge of 125 pounds and throws a projectile weighing 300 pounds about nine miles. A 10-inch gun weighs 30 tons, is 30½ feet long, requires a powder charge of 250 pounds and throws a projectile of 585 pounds about twelve miles. A 12-inch gun weighs 57 tons, is 40 feet long, requires a powder charge of 520 pounds and throws a 1000-pound projectile thirteen miles. A 12-inch mortar weighs 29,120 pounds, is 13 feet long, requires a powder charge of 105 pounds and throws a filled projectile weighing 800 pounds over five miles.

The defenses now under consideration are distributed among the ports of Portland, Me., Portsmouth, N. H., Boston, Narragansett bay, eastern entrance to Long Island sound, eastern and southern entrances to New York, Philadelphia, Baltimore, Washington, Hampton Roads, Wilmington, Charleston, Savannah, Key West, Pensacola, Mobile, New Orleans, Galveston, San Diego, San Francisco, the mouth of the Columbia river and Puget sound. All of the emplacements have been located with a view of carrying on the project of the Endicott Board of Fortifications, organized under the act of Congress of March 3, 1885, as revised by the permanent Board of Engineers.

By next July there should be completed fourteen 12-inch, forty-six 10-inch, ten 8 inch and twelve rapid-fire guns and 112 mortar emplacements. And by the close of the coming year this will be increased to twenty-one 12-inch, sixty-six 10-inch, twenty-five 8-inch and sixteen rapid-fire guns and 156 mortar emplacements.

The total amount appropriated for sea-coast defenses, including cost of sites, fortifications and armament, since the adoption of the present scheme, is $25,457,000, of which more than one-third was carried by the act passed at the last session of Congress.

Lamp-chimney sellers can't give you the shape for your lamp, without the Index. They have it; but some don't care. Let us send you one; free.
"Pearl top" and "pearl glass" are trade-mark names for tough glass and fine work.
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NO CASTINGS TO BREAK, NO WEAR OUT TO IT. Adjustment easiest operated. Save its cost first season. Adapted to general farm purposes. HAS NO EQUAL. Write RODERICK LEAN MFG. CO., MANSFIELD, OHIO. W. O. Rarig, 157 New Montgomery St. San Francisco and Hawley, King & Co., Los Angeles, Gen'l Agts.

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Combined 4 Tools in one. Most useful for Farmers & Mechanics. Small space; always ready.
Catalogue *free*. Paul Heinrichsdorf, Cincinnati, O.

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OLDEST BEE-PAPER IN AMERICA
A Sample Free
The leading paper, and only weekly; 16 large pages. BE SURE to see it before subscribing for any other. G. W. YORK & CO., 56 Fifth Ave., CHICAGO ILL.

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and you'll find out how quickly and surely it SOOTHES and CURES.

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SCHOOL OF SHORTHAND.
ELLIS--Actual Business.
BEN PITMAN--Shorthand.
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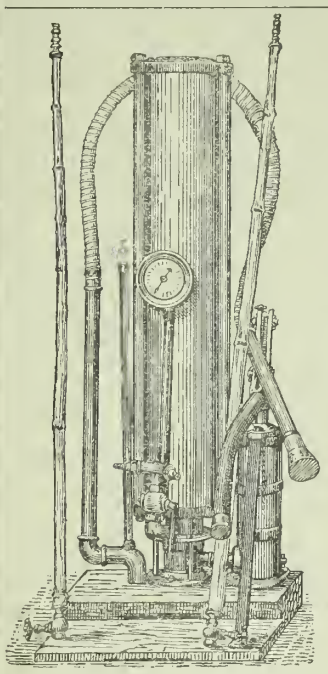

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For long service get BEAN SPRAY HOSE.
OUR NOZZLES ARE IN USE EVERYWHERE.
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Manilla Roofing, 250 square feet complete, with Paint and Nails, $4.00.
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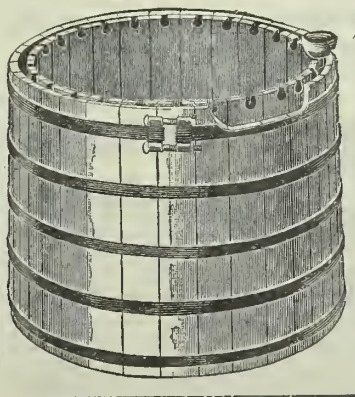

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Patent Non-Shrinking Water Tank,
The only one suitable for dry, hot climates, COSTS NO MORE THAN COMMON.
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Inventors on the Pacific Coast will find it greatly to their advantage to consult this old experienced, first-class agency. We have able and trustworthy associates and agents in Washington and the capital cities of the principal nations of the world. In connection with our scientific and Patent Law Library, and record of original cases in our office, we have other advantages far beyond those which can be offered home inventors by other agencies. The information accumulated through long and careful practice before the Office, and the frequent examination of patents already granted, for the purpose of determining the patentability of inventions brought before us enables us to give advice which will save inventors the expense of applying for patents upon inventions which are not new. Circulars and advice sent free on receipt of postage. Address DEWEY & CO., Patent Agents, 220 Market St., S.F.

The World's Oil Supply.

The market for petroleum and other crude oils is ever widening; it requires but a slight reduction in price to extend the use of oil fuel in ships and for other mechanical purposes, while the extreme simplicity of the oil motor has in recent years greatly extended its application; and now we are threatened with the oil motor car, which may or may not absorb an appreciable amount of the world's oil supply, says London *Engineering*. The United States and Russia are our great sources of supply; the former last year produced 53,000,000 barrels of forty-two gallons, and the latter 38,333,000 barrels, and carefully compiled statistics fail to account for more than 95,000,000 barrels as the world's production, but there is no doubt that much oil found is used locally, and therefore not accounted for.

That the supply is scarcely equal to the demand is in some measure indicated by the continued high level of rates. The output in the United States, especially in Ohio, Indiana and California, shows a great increase. Only once, in 1891, has the total been greater than that of 1895, already given, and withal stocks have greatly decreased. In the great Appalachian oil field, producing 31,000,000 out of the 53,000,000, the stocks only include 5,333,000 barrels. Thus prices have increased. Indeed, the average is higher than in any year since 1877, and the lowest rate last year was above the highest reached in 1894.

As to the prospects of increased supply, some interesting points are brought out in a recent report made to the Geological Department by Joseph D. Weeks: Between twenty and twenty-five promising wells have been sunk in the Appalachian field, two yielding about 6000 gallons per day. In the Los Angeles district of southern California there has been great extension, the total having trebled in three years. In Wyoming also there is increased activity, but the difficulty is the absence of cheap transportation.

It is, however, from Peru that the greatest augmentation of supply may be anticipated. The principal field is in the department of Piura, and estimates have been made as to the area yielding petroleum, one of them putting it as high as 7200 square miles. Since the Pennsylvania field is only 350 square miles and in thirty years has given forth 516,000,000 barrels, the prospects from Piura seem bright. Energy, it is said, is alone required. Of forty-nine wells bored since 1892, forty-four have been productive, and some of them yield 30,000 gallons per day. A London company has been working some of the wells, and the imports of oil have decreased to one-third the volume of 1889, the price of the local oil being one-third that of North American petroleum. Crude oil, too, is being used on the locomotives on all the Peruvian railways, in several manufacturing establishments, and in the gas works.

In Russia 269 new wells were drilled last year, 133 being deep wells, the average depth of all being 540 feet, and in six years 1371 wells have been drilled. The average number in operation now is 622, producing 38,000,000 barrels, of which 26,000,000 are pumped, the remainder flowing freely. The total output has been steadily increasing. In 1889 there were 278 wells, yielding 20,000,000 barrels; now 622 wells yield 38,333,000.

Character gives splendor to youth, and awe to wrinkled skin and gray hairs.—Emerson.

How's This?

We offer One Hundred Dollars Reward for any case of Catarrh that cannot be cured by Hall's Catarrh Cure.

F. J. CHENEY & CO., Props., Toledo, O.

We, the undersigned, have known F. J. Cheney for the last 15 years, and believe him perfectly honorable in all business transactions and financially able to carry out any obligation made by their firm.

WEST & TRUAX, Wholesale Druggists, Toledo, O.
WALDING, KINNAN & MARVIN, Wholesale Druggists, Toledo, Ohio.

Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Price 75c. per bottle. Sold by all Druggists. Testimonials free.

Hall's Family Pills are the best.

Niagara on Tap.

In the journal of the Franklin Institute, T. Commerford Martin, in an article on Niagara and electricity, says of long-distance transmission:

"As to the far-away places, Prof. Houston and Dr. Kennelly have made a careful estimate of the distance to which the energy of Niagara could be economically transmitted by electricity. Taking established conditions, and prices that are asked to-day for apparatus, they showed that even in Albany or anywhere else in the same radius—330 miles from the Falls—the converted energy of the great cataract could be delivered cheaper than steam power. What this enterprise at Niagara aims to do is not to monopolize the power, but to distribute it, and in this way it makes Niagara, more than it ever was before, the common property of the citizens. With both the Canadian and the American plants fully developed, no less than 350,000 horse power will be available, while the stationary engines now in use in New York State represent only 500,000 horse power. Yet the 350,000 horse power is but one-twentieth of the 7,000,000 horse power which Professor Unwin has estimated the Falls to represent theoretically. If the 350,000 horse power were estimated at $20 per year per horse power, and at Niagara should replace the same amount of steam power at $50, the annual saving for power in the State would be more than $10,000,000 per year."

WHAT can be claimed to be the largest and fastest locomotives in the world are two which have been received by the Denver and Rio Grande Railway. They weigh seventy-four tons each without tender, and are said to be able to travel at a speed of seventy miles an hour, and have hauled trains of forty-five loaded freight cars in Colorado without effort. They will go into service on passenger trains and will be run entirely on the fast overland train service between Denver and Pueblo. These two locomotives are the heaviest in use for mountain traffic, and are what are called ten-wheeled passenger locomotives. Their dimensions are as follows: Boiler 64 inches diameter at smallest ring; firebox, 10 feet long by 3 feet 6 inches wide inside; number of flues, 274, 2¼ inches in diameter, 13 feet 4 inches long; working steam pressure, 200 pounds; cylinders, single expansion, 20 inches diameter, 26-inch stroke, with extension piston-rods; driving-wheels, 63 inches diameter over tires; truck wheels, steel-tired, 33 inches diameter; weight of engine on drivers, 118,000 pounds; weight on truck, 30,000 pounds; total weight in working condition, 148,000 pounds.

Horse Owners! Try GOMBAULT'S Caustic Balsam

A Safe Speedy and Positive Cure

The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. *Impossible to produce scar or blemish.*

Every bottle sold is warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland.

FOR SALE.

My Poland-China Boar, Ovation 30077.

Bred by S. H. Shellenberger, Ohio.

Ovation has won more premiums at our Cal. State Fair than any other hog ever exhibited here. Pigs of Aug. farrow for sale.

P. H. MURPHY, Perkins, Sacramento Co., Cal.

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For deep or shallow wells; power, windmills, hand Pumps; valves can be removed without taking pump out of the well. With my 5-in. double-acting deep well Power Pump I guarantee 10,000 gallons per hour. Send for circular. A. T. AMES, Galt, Cal.

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Breeders' Directory.

Six lines or less in this directory at 50c per line per month.

Horses and Cattle.

F. H. BURKE, 626 Market St., S. F. Holsteins, winners of every first prize State Fair this year, seven days' butter contest; Jerseys and Durhams competing. Berkshire Pigs.

JERSEYS. The best A. J. C. C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

P. H. MURPHY, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle, Poland-China & Berkshire Hogs.

BULLS—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times, either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

PETER SAXE & SON, Lick House, S. F., Cal. Importers and Breeders, for past 21 years, of every variety of Cattle, Horses, Sheep and Hogs. Correspondence solicited.

JERSEYS AND HOLSTEINS, from the best Butter and Milk Stock; also Thoroughbred Hogs and Poultry. William Niles & Co., Los Angeles, Cal. Breeders and Exporters. Established in 1876.

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PARKVIEW POULTRY FARM, F. P. Lowell, Prop., Sacramento, Cal. Breeder of high-class Black and White Langshans; Brown, Buff and White Leghorns, Barred Plymouth Rocks and Golden and Silver Wyandottes. Write for circular.

SANTA TERESA POULTRY FARM, Eden Vale, Cal. Barred Plymouth Rocks, Black Minorcas, White Leghorns, Brown Leghorns. Fine Stock and Eggs for sale. Send for circular.

FOR SALE.—Trio Buff Cochin, 1st prem. cock, 1 & 2 hens; also 1st & 2d prem. Buff Leghorn cockerels, at State Fair. Box 740, L. E. Brainard, San Jose, Cal.

SEND FOR CATALOGUE OF CALIFORNIA'S greatest poultry farm. J. W. Forgeus & Co., Santa Cruz, Cal.

PURE BRED POULTRY AND EGGS, Carman Bros., San Jose, Cal. Barren eggs replaced.

WELLINGTON'S IMPROVED EGG FOOD for poultry. Every grocer and merchant keeps it.

MANHATTAN EGG FOOD, Red Ball Brand, at all grocers; or wholesale, Tillman & Bendel, S. F.

CALIFORNIA POULTRY FARM, Stockton, Cal. Send for illustrated and descriptive catalogue, free.

WILLIAM NILES & CO., Los Angeles, Cal. Nearly all varieties of Poultry, Dairy Cattle and Hogs.

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BERKSHIRE AND POLAND-CHINA HOGS, Best Stock; Thoroughbreds. Wm. Niles & Co., Los Angeles, Cal. Established in 1876.

TYLER BEACH, San Jose, Cal. Breeder of Thoroughbred Berkshire and Essex Hogs.

J. P. ASHLEY, Linden, San Joaquin Co., Cal. Breeds Berkshire, Poland-China and Essex Swine.

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has proven conclusively that better **grapes** and **peaches**, and more of them, are produced when Potash is liberally applied. To insure a full crop of choicest quality use a fertilizer containing not less than **10%**

Actual Potash.

Orchards and vineyards treated with Potash are comparatively free from insects and plant disease.

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Absolutely Self-Regulating. Hot Water.

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and pay for it before giving it a trial. The firm who is afraid to let you try their incubator before buying it, has no faith in their machine. We will sell you ours ON TRIAL. NOT A CENT until tried, and a child can run it with 5 minutes attention a day.

We won FIRST PRIZE WORLD'S FAIR and will win you for a steady customer if you will only buy ours on trial. Our large catalogue will cost you 5 cents and give you $100 worth of practical information on poultry and incubators and the money there is in the business. Plans for Brooders, Houses, etc., 25c. N. B.—Send us the names of three persons interested in poultry and 25 cents and we will send you "The Bicycle: Its Care and Repair," a book of 180 subjects and 80 illustrations, worth $5 to any bicycle rider.

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Short-Horn Bulls FOR SALE.

ROBERT ASHBURNER,
Baden Station, San Mateo Co., Cal.

The Baden Farm Herd was established in 1867, with cows from then recent importations of the best English Milking Shorthorns, since which time improvement in dairy qualities has been steadily kept in view.

California State Poultry Association and Kennel Club's POULTRY AND BENCH SHOW COMBINED.

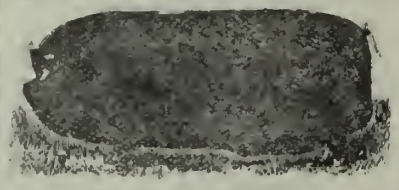
STATE FAIR PAVILION, - - - SACRAMENTO, CAL.

POULTRY, Jan'y 6,7,8,9,10,11,12,13. BENCH SHOW, Jan'y 9,10,11,12.

ENTRIES POSITIVELY CLOSE JANUARY 1, 1897.

J. OTIS FELLOWS, Hornellsville, N. Y., Judge of all Classes.

President, J. A. SCHOLEFIELD, Hollister, Cal. Secretary, W. E. LADD, P. O. Box 220, Stockton, Cal.



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Lynwood Dairy and Stock Farm
P. O Box 686, Los Angeles, Cal.

Our Berkshires and Poland-Chinas are again in the lead. At the State Fair, with strong competition, we won 16 premiums—8 firsts, 3 seconds, 5 sweepstakes—out of 19 entries. Choice pigs from the prize winners ready to ship at reasonable prices. Send for our new catalogue.

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Get Your Guns at Headquarters!
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S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Dec. 16, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Wednesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	138,356	3,115,677	2,247,833
Wheat, ctls	423,401	7,582,969	5,196,219
Barley, ctls	63,390	3,617,379	1,986,250
Oats, ctls	11,791	344,773	342,713
Corn, ctls	4,620	101,113	96,898
Rye, ctls	735	111,991	19,607
Beans, sks	7,157	394,679	356,450
Potatoes, sks	35,745	541,672	511,495
Onions, sks	3,140	77,550	64,984
Hay, tons	2,339	79,402	78,147
Wool, bales	1,173	35,787	38,193
Hops, bales	122	6,476	8,603

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	154,552	2,280,120	1,528,999
Wheat, ctls	327,619	7,061,718	5,047,131
Barley, ctls	15,163	2,841,032	1,371,830
Oats, ctls	....	16,173	11,242
Corn, ctls	1,609	7,478	10,685
Beans, sks	2,121	234,379	194,385
Hay, bales	1,397	27,042	25,627
Wool, lbs	....	4,856,112	7,666,096
Hops, lbs	23,699	592,346	714,374
Honey, cases	503	1,962	5,791
Potatoes, pkgs	1,089	38,099	59,925

Grain Freights and Charters.

The market for grain charters continues dull and weak, with poor prospects of ocean freights improving materially in the near future. Iron ships suitable for the grain-carrying trade are offering at 18s 9d for wheat to Cork for orders, usual option, and fail to secure engagement at this low figure. Ships now loading coal at Swansea for this port are reported chartered for wheat to Europe at 19s. Freights elsewhere are in much the same depressed condition. A large iron ship was recently secured to carry freight from Calcutta to New York at $3 per ton.

Charters.

British ship Langdale, 1889 tons, wheat to U. K., Havre, Antwerp or Dunkirk; £1 7s 6d—chartered prior to arrival.

British ship Queen of England, 2071 tons, wheat to U. K., Havre, Antwerp or Dunkirk; £1 6s 3d—chartered prior to arrival.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive.
1896	55,425	62,054	221,240
1895	81,898	16,558	247,735

Flour.

There has been no active movement in this product the past week, but the market shows fully as firm a tone as previously noted, with likelihood of stiffer figures ruling before long, especially on the more favorite marks of both local and interior mills. There has been a heavy drain on high-grade wheat for shipment to foreign countries, and supplies of choice to select are now light.

Superfine, lower grades	$3 00@3 25
Superfine, good to choice	3 30@3 50
Country grades, extras	4 25@4 50
Choice and extra choice	4 50@4 75
Fancy brands, jobbing	4 75@5 00
Oregon, Bakers' extra	4 25@4 50
Walla Walla, Bakers' extra	4 25@4 50

Wheat.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	5s 5d@5s 6d.	7s 3d@7s 4d.
Freight rates,	27@28¾s.	17½@20s.
Local market,	$1.00@$1.02½	$1.47½@1.55

The prices above are for spot lots of standard No. 1 California in Liverpool, and for good to choice shipping in this city.

The raiding of the bears in the speculative wheat market, depressing prices of options in lively fashion, at the time our last review closed, was attended with only very temporary success, and was wholly unwarranted, based on the law of supply and demand, so far as this center is concerned. The only excuse for the hammering down of prices on the local Call Board was a drop in Chicago, which was probably more the result of speculative manipulation than of any decided change in the actual and legitimate conditions having a bearing upon the market. While operators on Call Board succeeded in breaking down prices of options, the values for wheat in the open market were not materially lowered, quotations remaining unchanged until Saturday, when options recovered sharply and spot market showed more strength than on any previous date the current season. Spot values developed a quotable advance of about 50c per ton, with market particularly firm for choice to select. While there were slight fluctuations downward in prices of May wheat Monday, a still higher price was recorded for the option than had been current Saturday. May sold up to $1.58⅜, but subsequently declined to $1.57, and closed at latter figure. Wheat in the sample market continued to be steadily held, with select milling not obtainable under $1.62½, while for first-class shipping wheat delivered alongside vessel, $1.55 was about the least figure holders would accept for round lots. Prices in the speculative market were lower Tuesday, and there was further depression in Call Board prices Wednesday, with Chicago off about 2½c per bushel, and Liverpool recording a decline of ½d to ¾d per cental. In the spot market there was naturally a weak tone and not much doing, but desirable qualities were not offered at any marked decline from previous figures.

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, --@—.

May, 1897, delivery, $1.58⅜@1.51⅛.

Wednesday, at regular noon session of Call Board, December wheat sold at $—; May at $1.53⅝@1.51⅛.

California Milling	$1 50 @1 60
Cal. No. 1 shipping, alongside	1 47½@1 50
Oregon Valley	1 45 @1 50
Walla Walla Blue Stem	1 35 @1 52½
Walla Walla Club	1 35 @1 50

Barley.

Despite the fact that crop prospects for this cereal were never more encouraging at corresponding date, which condition ordinarily operates in favor of the buying interest, the market has presented a better tone than during preceding week. This is partly accounted for by the depression of the previous week being in a great measure forced and unwarranted, so that a reaction was nothing more than natural. About 1,000 tons of barley is to be shipped to the Puget Sound section, and with fair average shipments to Hawaiian Islands, as well as the possibility of further exports to Europe, there is little reason to anticipate materially lower prices than are now ruling, or that it will be necessary to carry any great quantity of barley into the coming season. Present stocks are mainly feed description and ordinary qualities of brewing. Little more than nominal quotations are possible for Chevalier, offerings and demand for the same being both exceedingly light at this date.

Feed, No. 1 to choice	85 @ 90
Feed, fair to good	82½@ 87½
Brewing, No. 1 to choice	95 @1 00
Chevalier, No. 1 to choice	1 05 @1 15
Chevalier, No. 2	85 @ 92½

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, —@--c; May, 1897, delivery, 90¾@94c.

Wednesday at regular noon session of the Call Board, December feed sold at ——; May feed at 91⅜@92c.

Oats.

There were moderately heavy arrivals from Washington and fair receipts from east of the Sierras. Owing to the tolerably stiff prices lately established, demand has been rather slow, particularly for other than choice to fancy qualities, desirable for milling or suitable for race horses. Oats sought after for the latter purpose command the highest figures current.

White Oats, fancy feed	1 35 @1 40
White, good to choice	1 20 @1 30
White, poor to fair	1 05 @1 15
Gray, common to choice	1 20 @1 30
Milling	1 25 @1 35
Surprise, good to choice	1 50 @1 57½
Black Russian	1 15 @1 35
Red	1 10 @1 30

Corn.

Market for all descriptions has remained in much the same condition as during preceding week, with offerings in the main more than sufficient to accommodate the immediate inquiry. Large Yellow is in more liberal supply than any other variety, and is receiving the most attention, but at low figures. Large White continues in poor request. Small Round Yellow is in fair demand on local account, commanding tolerably good figures. Pop Corn is plentiful as compared with the requirements and market for the same is easy.

Large White, good to choice	82½@ 87½
Large Yellow	80 @ 85
Small Yellow	1 00 @1 05
Popcorn, shelled, ℔ lb	1½@ 1¾

Rye.

While the amount offering is not large, it is more than can be advantageously placed and market is devoid of any noteworthy firmness.

Good to choice, new	1 02½@1 05

Buckwheat.

The little doing in this line is within range of generally unchanged figures. The firmness existing in values is confined mainly to choice silverskin.

Good to choice	1 22½@1 27½
Silverskin	1 25 @1 30

Beans.

New York advices by mail furnish the following, under recent date, concerning the Eastern bean market. Prices quoted herewith are per bushel of 60 pounds:

Both export and jobbing demand have been very moderate, and market has ruled quiet and somewhat nominal, with prices showing little change during the week Strictly choice Marrow have had a light inquiry at $1.40, and Medium at $1.12½@1.15. Pea have been held mainly at $1.05, but toward the close some business is reported at $1.00@1.02½, and $1.05 has become exceptional; Michigan bags have sold at 95c., though a little more was realized early in the week. White Kidney have continued scarce and firm. Exporters have taken few Red Kidney, but offerings are not large, and choice are held with more confidence toward the close; some holders are not willing to accept $1.40. A few Black Turtle Soup have arrived, and brought exceptionally high figures. Yellow Eye have arrived a little more freely, and with outlet small, prices have eased off about 5c. California Lima and Lady Washington have had a very moderate inquiry and outside quotations somewhat extreme at the close. California Lima are quotable at $1.35@1.40, Lady Washington at $1.00@1 10. Demand for green peas shows no improvement, and prices are slightly lower and leaning in buyers' favor at the close.

The local market has shown very little activity since last report. Quotable values for most kinds have continued stationary, but top figures named were based mainly on the views of holders, and were not obtainable in other than a jobbing way. Most kinds of white beans, especially Small White and Lady Washington, are in liberal stock. Pinks have been inclining less in buyers' favor than for some weeks preceding, not owing to any scarcity of supplies, but to less pressure to realize. Limas are not meeting with much attention locally, nor are many going outward at present from points of production.

Pea, fair to good, 100 lbs	$1 30 @1 50
Small White, good to choice	1 25 @1 35
Lady Washington	1 15 @1 25
Butter, small	1 25 @1 40
Butter, large	1 40 @1 60
Pinks	1 15 @1 25
Bayos, good to choice	1 50 @1 60
Reds	1 30 @1 40
Red Kidneys	2 25 @2 50
Limas, good to choice	1 80 @1 95
Black-eye Beans	1 15 @1 30
Horse Beans	1 00 @1 10
Garbanzos, large	2 50 @2 75
Garbanzos, small	1 50 @1 75

Dried Peas.

Business continues of a light order. Values remain in the same position as last quoted, but are largely nominal.

Green Peas, California	$1 25 @1 40
Niles Peas	1 00 @1 20

Hay and Straw.

There has been some decrease in the arrivals of hay lately, but there is still more than enough coming forward to satisfy the limited demand. Prices keep at a low range. A decided reduction in offerings or a radical increase in the demand, neither of which is anticipated, would be necessary to impart any noteworthy firmness to the market. Straw remains without change.

Wheat	7 50@10 50
Wheat and Oat	7 00@10 00
Oat	6 00@ 8 50
Barley	6 00@ 8 50
Clover	6 00@ 7 50
Stock Hay	4 50@ 5 50
Alfalfa	6 00@ 7 50
Compressed	6 00@ 9 50
Straw, ℔ bale	35@ 50

Wool.

The customary mid-winter dullness is now being experienced in the local wool market. Holders generally are contending for full current quotations or more, basing their views on the improvement expected to result to wool from a change of the national administration. But some favorable tariff legislation will be necessary before any substantial change for the better in the wool market can be reasonably expected. After the necessary legislation, it will take a little time to recover from the effects of the glut now being experienced in foreign wools and woolens.

SPRING.

Nevada, as to condition	7 @ 9
Oregon Valley, select	9½@11
Oregon Valley, low grade	8 @ 9½
Oregon, Eastern	7½@ 9

FALL.

Humboldt and Mendocino	7 [illegible]
Northern California free	7 [illegible]
Northern defective	5½ [illegible]
Middle Counties free	6 @ 7½
Middle counties defective	5½@ 6½
San Joaquin and Southern	3½@ 5

Hops.

The following review of the hop market, furnished by mail, is from a New York authority:

The general market has presented a quiet appearance the past week, but without specially new features. The short crop in England and poorer quality there as well as in Germany of this years' growth stimulates a strong and confident holding of the best American hops, in the hope that the foreign outlet will be compelled to look here for supplies of the higher grades. During the week English demand has been indifferent at the prices asked, and it is a stand-off with the question as to who will give way first, the American growers or the English buyers. At the close some inquiries are being made regarding prices at which prime to choice grades could be obtained, probably based on inquiries from the other side, but not resulting in actual business. Late advices from Germany report a strong feeling there with stocks light, and in many instances samples are ordered to be withdrawn as the goods can no be had. Reports from the interior of this State advise a waiting market for prime to choice grades but no disposition to give away any of the advantage lately gained though some inquiries are received as to what could be obtained for medium and lower grades. Advices at the close however, indicate rather more interest on the part of buyers. The Pacific Coast is in a strong position with bulk of the stock of best grades in the hands of speculators. Very few desirable hops left in hands of growers. Prices here are little more than nominal in absence of important business, but doubtful if many choice could be obtained at quotations; on lower grades there is a little undertone of weakness.

The market in this center is very quiet, wholesale operators showing little disposition to operate and confining themselves principally to very best qualities. The latter constitute a very slim proportion of offerings. For common to medium grades or for old hops the market displays little or no firmness.

Fair to choice, 1896 crop	9 @12

Millstuffs.

Bran is commanding steady rates. Middlings are in light stock and favor sellers. Rolled barley, ground corn and cornmeal ruled about as last quoted, with supplies of fair volume and sufficient for all immediate needs.

Bran, ℔ ton	13 50@14 50
Middlings	16 50@21 00
Barley, Rolled	19 50@20 00
Cornmeal	20 00@20 50
Cracked Corn	20 50@21 00

Seeds.

Market for Mustard Seed has developed no important change for the week under review. There is not much offering of either Brown or Yellow, and there is a fair inquiry at prevailing rates for desirable qualities, but no disposition is shown to advance bids. Flaxseed remains quotably as last noted, with a fairly healthy tone to the market. This week's rain caused a better demand from the interior for Alfalfa, and market is in consequence showing a firmer tone.

	Per ctl.
Mustard, Yellow	2 00@2 25
Mustard, Trieste Seed	3 00@3 25
Mustard, Wild Brown	2 25@2 50
Flax	1 30@1 50
	Per lb.
Canary	2¼@2¾
Rape	2¼@2¾
Hemp	3¼@3½
Alfalfa, Utah	6¼@6½

Bags and Bagging.

Importers and dealers in Grain Bags are asking advanced figures, owing to the generally encouraging crop prospects for the next season and the probability of an extra large quantity of bags being required. Other bags and bagging are offering at unchanged prices.

Grain bags, 22x36, spot	4¾@ 4⅞
Grain bags, buyer June-July	4⅞@ 5
Wool sacks, 4 lb	.28 @—
Wool sacks, 3½ lb	.26 @—
Gunnies	9 @—
Bean bags	4 @ 4¼
Fruit sacks, cotton	5½@ 7½

Hides, Pelts and Tallow.

The same easy tone noted in last review is still being experienced in the Hide market. Pelts are without quotable change, although market cannot be termed firm. Tallow is selling at former range, with a very good demand for best qualities.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.	Culls.
Heavy Steers, over 56 lbs	8 @ —	7 @ —
Medium Steers, 48 to 56 lbs	7 @ —	6 @ —
Light Steers, under 48 lbs	6 @ —	5 @ —
Heavy Cow Hides, over 50 lbs.	6 @ 6½	5 @ 5½
Light Cow Hides, under 50 lbs.	6 @ —	5 @ —
Wet Salted Kip	6 @ 7	5 @ 6
Wet Salted Veal	6 @ 7	5 @ 6
Wet Salted Calf	7 @ 8	6 @ 7
Dry Hides	12 @13	9 @10
Dry Kip and Veal, 11 to 16 lbs.	9 @10	7 @ 8
Dry Calf, under 4 lbs	— @15	— @10

Horse Hides, large dry	75@ —
Horse Hides, large, wet salted	75@1 00
Horse Hides, medium	50@ —
Horse Hides, small	25@ —
Colts' Hides	25@ —
Pelts, long wool, per skin	50 @60
Pelts, medium, per skin	40 @50
Pelts, short wool, per skin	20 @35
Pelts, shearling, per skin	10 @15
Deer Skins, best summer	20 @25

Deer Skins, good medium	15	@20
Deer Skins, thin winter	7	@ 9
Elk Hides	7½	@ 9
Tallow, good quality	3	@—
Tallow, No. 2	2½	@—
Goat Skins, perfect	20	@35
Goat Skins, damaged	10	@20
Kid Skins	5	@—

Honey.

Considerable comb honey is coming forward, considering the small yield of the past season, but not much extracted. There is a fairly good demand for choice water white, such selling to tolerably good advantage. The lower grades are receiving little attention, and have to depend mainly on street hawkers for an outlet.

White Comb, 1-lb frames	10	@11
Amber Comb	7½	@ 9
Extracted, White Liquid	5½	@ 6
Extracted, Light Amber	4¼	@ 4¾
Amber Colored and Candied	3¾	@ 4¼
Dark Tule	2¾	@ 3

Beeswax.

There is not much demand at the moment, but offerings are light, and it is not possible to purchase at materially lower figures than have been lately ruling.

Fair to choice, ℔ lb	23	@26

Live Stock and Meats.

Hogs have been arriving in sufficient quantity to keep the market more favorable to the buying than to the selling interest. The last quoted advance on beef and mutton continues to be maintained. Following are wholesale rates:

Beef, 1st quality, dressed, net ℔ lb	5½	@ 6
Beef, 2d quality	4½	@ 5
Beef, 3d quality	3½	@ 4
Mutton—ewes, 5@5¼c; wethers	6	@—
Hogs, hard grain fed, medium size, fat	3⅛	@ 3¼
Hogs, large hard	3⅛	@ 3¼
Hogs, soft and feeders	—	@—
Hogs, country dressed	4	@—
Veal, small, ℔ lb	5	@ 6
Lamb, spring, ℔ lb	7	@—

Poultry.

Owing to large arrivals of Eastern the latter part of last week, and moderately free receipts of California poultry, the market developed a very weak condition for turkeys and most kinds of chickens, with little recovery since. A better market is anticipated the coming week, especially for dressed turkeys and large chickens. Ducks in prime order have been selling fairly well. Geese in good condition were not in excessive receipt and sold to fair advantage.

Turkeys, dressed, per lb	13	@ 16
Turkeys, live hens, ℔ lb	12	@ 14
Turkeys, live gobblers	12	@ 14
Hens, Cal., ℔ doz	3 00	@4 50
Roosters, old	4 00	@4 25
Roosters, young, (full-grown)	3 50	@4 50
Fryers	3 25	@3 50
Broilers, large	3 00	@3 25
Broilers, small	2 00	@2 50
Ducks, young, ℔ doz	4 50	@5 50
Ducks, old	4 00	@5 00
Geese, ℔ pair	1 50	@2 00
Goslings, ℔ pair	—	@—
Pigeons, Old, ℔ doz	75	@—
Pigeons, Young	1 00	@1 25

Butter.

Further weakness has been developed in the butter market, more particularly for fair to medium grades of fresh, with considerable of this sort now offering and light demand for the same. There is not much butter now coming forward which can be termed strictly select, and such is commanding tolerably stiff prices, more in some cases than is warranted as a regular quotation. The trouble with the medium grades of fresh is that retailers and consumers who would ordinarily take this class of stock are now running largely on packed, the latter being still in good supply and being obtainable at quite easy rates.

Creamery extras, ℔ lb	23	@24
Creamery firsts	22	@23
Creamery seconds	20	@21
Dairy select	20	@21
Dairy seconds	14	@17
Dairy, soft and weedy	—	@—
Mixed store	11	@13
Creamery in tubs	16	@17
Pickled roll	16	@17
Dairy in tubs	15	@16
Firkin, Cal., choice to select	15	@16
Firkin, common to fair	11	@12

Cheese.

Stocks are still light, but of the more common grades there is a slight increase observable in supplies. Quotations remain practically as before, but the firmness of the market is mainly on choice to select mild-flavored new.

California fancy flat, new	12	@—
California, good to choice	10	@11
California, fair to good	9	@10
California, "Young Americas"	10	@13

Eggs.

There were no heavy stocks of fresh eggs, either local product or Eastern, but demand was slow and market continued unfavorable to sellers. A large number of retailers, bakers, hotels and restaurants are carrying cold storage eggs, which they are now running on heavily, being anxious to speedily clean up on the same. This is interfering with the sale of fresh, particularly other than fancy stock.

California, select, large white and fresh	28	@30
California, select, irregular color & size	24	@27
California, good to choice store	23	@26
California, common to fair store	20	@22
Oregon, prime	—	@—
Eastern, as to section and grading	23	@25
Eastern, seconds	—	@—
Duck eggs	25	@—

Vegetables.

Onions are in decreased receipt and market is firmer for choice to select. Early Spring vegetables, such as Peas, String Beans, Egg Plant and Tomatoes, are beginning to put in an appearance, mainly from southern California, but are mostly held too high to meet with much custom.

Beans, Garden, ℔ lb	6	@ 8
Beans, Lima, ℔ lb	—	@ —
Cabbage, choice garden, ℔ 100	50	@ 60
Cauliflower, ℔ doz	40	@ 50
Cucumbers, Alameda, large box	—	@ —
Egg Plant, ℔ lb	6	@ 8
Garlic, ℔ lb	1½	@ 2
Mushrooms, Buttons, ℔ lb	25	@ —
Mushrooms, Wild, ℔ lb	10	@ 15
Okra, Dried, ℔ lb	8	@ 10
Onions, Red, ℔ cental	—	@ —
Onions, Yellow, good to choice	45	@ 60
Peas, Green, ℔ lb	4	@ 6
Peppers, Green Chile, ℔ box	50	@ 75
Pepper, Bell, ℔ large box	—	@ —
Rhubarb, ℔ box	—	@ —
Squash, Cream, ℔ box	25	@ 35
Tomatoes, River, per large box	—	@ —
Tomatoes, Los Angeles, ℔ box	75	@ 1 00

Potatoes.

The tendency on desirable qualities has been to more firmness, with prospects of stiffer figures ruling in the near future. Oregon is forwarding very lightly, the crop in that State having been seriously damaged by frost. Some so-called new have been received, but they are either volunteer crop or old washed and rubbed so as to bear some resemblance to new. Sweets brought fairly steady prices.

IN SACKS.

Early Rose, River, ℔ cental	45	@ 55
Peerless, River	—	@ —
Reds, River	45	@ 55
Garnet Chile, Mission	—	@ —
Burbanks, River	35	@ 60
Burbanks, Salinas	60	@1 10
Burbanks, Oregon	50	@1 00
Sweet Potatoes	75	@1 25

The Fruit Market.

Fresh Fruits.

The market for apples has been running along in much the same groove as noted in former issue. Stocks are mainly imported, some of which are very good quality, while others are quite ordinary. There are few sufficiently choice to sell at outside quotation, although strictly select, such as fancy Spitzenberg, would probably command a moderate advance on extreme price herewith quoted. Apples in boxes, or Pacific coast product, do not make much of a display, and it is the exception where offerings of the same are not more or less faulty. This defective fruit is dragging at low figures, while choice large, four layers to the box, free from worms, rot or blemish of any sort, are salable without trouble at good prices. Lady apples of fine shape, waxy skin and of good color, are selling fairly well on holiday account.

Pears are in much lighter supply than is ordinarily the case at this time of year, but values fail to show any quotable improvement, and for other than best there is little or no inquiry. Most buyers prefer paying top figures, where the quality is to their suiting, rather than take ordinary stock at the lowest quotations. This fruit is now more of a luxury than a necessity, and, to fill the bill on this score, the quality must, of course, be of high grade.

Grapes are still seen on market, but in very limited quantity, and will soon wholly disappear for the season. Those which are now on market and which find custom are taken more to help decorate fashionable tables than for any other purpose. There are scarcely any now offering which could be termed really palatable.

Persimmons are not in large supply, but offerings are ahead of the demand, the consumers who possess by cultivation or otherwise a taste for this fruit being of a very limited class, at least so far as they assert themselves.

Cranberry market is ruling easier as the season advances. There are fairly liberal supplies, mainly of Eastern product. Oregon and Washington are still forwarding to this market in moderate quantities. Quotable rates are close to those last noted, although concessions to buyers are rather frequent. For the Washington berry $6.50 per barrel is asked.

Apples, fancy, 4-tier, per box	1 00	@ 1 25
Apples, good to choice, 50-lb box	75	@ 90
Apples, fair to good, 50-lb box	60	@ 75
Apples, common, ℔ 50-lb. box	35	@ 50
Apples, Eastern, ℔ bbl	2 00	@ 4 00
Apples, lady, ℔ box	1 50	@ 3 00
Pears, Winter Nells, per box	50	@ 1 25
Pears, other kinds, ℔ box	40	@ 75
Persimmons, ℔ box	30	@ 75

Berries.

Blackberries, ℔ chest	—	@ —
Cranberries, Eastern, ℔ bbl	7 00	@ 8 50
Cranberries, Oregon, ℔ box	2 25	@ 2 50
Currants, Red, ℔ chest	—	@ —
Raspberries, ℔ chest	—	@ —
Strawberries, Longworth, ℔ chest	4 00	@ 5 00
Strawberries, Large, ℔ chest	—	@ —
Whortleberries, ℔ lb	—	@ —

Grapes.

Black, ℔ crate	75	@ 1 00
Cornichon, ℔ crate	75	@ 1 00
Verdel, ℔ box	—	@ —

Dried Fruit.

The dried fruit market on the Atlantic side is thus reviewed by a New York contemporary.

With a continued very slow dragging trade from both exporters and jobbers, and more pressure to sell by interior makers, evaporated apples have shown a further decline for all grades. Extra fancy fruit is not salable above 5c., and average fancy range from 4¼@4¾c., with choice 3¾@4c. and prime generally 3⅝c.; in a small way these figures have been slightly exceeded, but to move important quantities the inside rates have been all that could be realized. Sun-dried apples scarce and nominal. Chops and cores and skins have had a fair inquiry, and have ruled firm at unchanged prices. Evaporated raspberries are in few hands, and generally held above 16c., though no sales of importance over that figure as yet; few if any sun-dried offering. Huckleberries in moderate demand and barely steady, with 7c. extreme. Blackberries, cherries and peaches have about cleaned up from first hands, and values uncertain. California fruit meets a very good outlet in ranges quoted.

Business in the local dried fruit market is far from brisk, and is mostly confined to the filling of small orders for interior coast points, although occasional shipments outward are still being made. The last steamer for Australia, sailing on the 10th, took 60,430 lbs. dried fruit for the colonies, the shipment being principally prunes. Present offerings are mainly prunes, although it is estimated that less than 10 per cent of the season's yield now remains unplaced. Stocks of most other kinds are light, the quantity of peaches left in the State being stated at not to exceed 50 carloads and of apricots only 25 or 30 carloads. The market for prunes has been favoring buyers, particularly on the small sizes, some of which are obtainable as low as 1½c, although 30–40s are quotable at 6@6½c. For the four sizes it is difficult to secure over 3c at this date. Some holders, however, are unwilling to accept less than 3½c. Quotations for other kinds are, in the main, unchanged, but they represent at present little more than asking figures. Apples are meeting with slow custom, despite slim stocks. Some fancy Eastern are passing out of jobbers' hands at 6½@6¾c.

Apricots, Cal. Royal, hxs., 1896, per lb	9	@12
Apricots, Cal. Royal, bags, 1896, per lb	8	@10
Apricots, Cal. Moorpark, 1896, hxs	12	@15
Peaches, California, 1896, peeled, per lb	11	@15
Peaches, Cal., 1896, unpeeled, lb	7	@10
Prunes, Cal., 1896, as to size	4	@ 8

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	7½	@ 8
Apricots, Royal, fancy	9	@10
Apricots, Moorpark	10	@12½
Apples, in boxes	5½	@—
Nectarines, White	5	@ 5½
Nectarines, Red	4	@ 5
Peaches, unpeeled, prime to choice	5	@ 6
Peaches, unpeeled, choice to fancy	6	@ 7
Peaches, peeled, in boxes	11	@12½
Pears, peeled and sliced	4	@ 5
Pears, unpeeled Bartletts, halved, fancy	6½	@ 7
Pears, halved, unpeeled Bartletts	4	@ 5
Pears, quartered, unpeeled Bartletts	4	@ 5
Plums, pitted	4	@ 5
Prunes, in sacks, 4 sizes	3	@ 3½
Prunes, in sacks, small sizes	1½	@ 2½
Prunes, Silver	7½	@ 8

COMMON SUN-DRIED.

Apricots, ordinary	5½	@ 7
Apples, sliced	2½	@ 3
Apples, quartered	3	@ 3¼
Figs, Black	2½	@ 3
Figs, White	3	@ 4
Plums, unpitted	1½	@ 2

Raisins.

The market presents a fairly healthy tone, not so much due to any special demand as to limited supplies. The inquiry at present is not active, but with stocks cut down to about 400 carloads, there is no occasion for holders having any great anxiety as to the near future. If there is anything like a fair spring and summer trade, the remaining stocks will be readily absorbed. Little or nothing need be feared from foreign competition, as Spain's yield was light.

Imperial Clusters, per box	2 25	@ 2 50
Dehesa Clusters, per box	2 00	@ 2 25
Fancy Clusters, per box	1 40	@ 1 50
Boxes, London layers, 20-lb box	1 20	@ 1 25
(Usual advance for fractions.)		
Loose Muscatel, 4-crown, ℔ lb	5½	@ —
Loose Muscatel, 3-crown	4½	@ —
Loose Muscatel, 2-crown	3½	@ —
Sultanas	5¾	@6
Seedless Muscatel	4½	@5
Dried Grapes	3	@ —

Citrus Fruits.

About ten carloads of oranges were landed in this center the current week, giving the market a very fair supply for this early date. Some brands of high repute are now represented, but most of the oranges are still lacking in richness of color and thorough ripeness, which are characteristic features of the fruit a little later in the season, and which are necessary to make the oranges really tempting to the taste of most consumers. Quotations for both Navels and Seedlings show a decline.

Lemons and limes are offering at unchanged figures, with supplies of fair proportions, as compared with the light demand.

Oranges—Wash. Navels, ℔ box	2 00	@ 3 50
Cal. Mediterranean Sweet	—	@— —
Cal. Seedlings	1 25	@ 2 00
Cal. Valencias	—	@— —
Japanese, Mandarin, small box	1 00	@ 1 25
Mexican	—	@— —
Grape Fruit, ℔ case	5 00	@ 6 00

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Our "Weekly Special" this week quotes:

Farren's Oysters, 1's, guaranteed best quality, per doz	$ .85
Mackerel, 21-lb. kits, gross weight, straight, genuine Mackerel, per kit	.70
Shelled Pop Corn, just received, pops easily, per lb	.04½
Knox Gelatine, full-size packages, genuine article, per doz	1.10

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Lemons—Cal., select, ₩ box	2 50@	3 00
Cal., good to choice	1 50@	2 00
Cal., common to good	1 00@	1 50
Limes—Mexican, ₩ box	4 00@	5 00
Cal., small box	75@	1 25

Nuts.

Jobbers are doing a fair trade in nuts of most descriptions, as is customary during the midwinter holiday season; but in the way of transfers from first hands tbere is not much doing. There are no heavy stocks of any kind. Quotations remain as last noted.

California Almonds, paper shell	8	@ 9½
California Almonds, soft shell	6	@ 8
California Almonds, standard	5	@ 6
California Almonds, hard shell	3	@ 4
Walnuts White, paper shell	9	@10
Walnuts White, soft shell	8	@ 9
Walnuts White, Cal., hard shell	6	@ 7
Chestnuts, Cal. Italian	8	@10
Peanuts, Cal., fair to prime	4	@ 4¾
Peanuts, Eastern hand-picked	5	@ 6
Pine Nuts	9	@10

Cal. Dried Fruits at New York.

New York, Dec. 14.—Apricots, bags, 9@11c; boxes, 10@15c; peaches, peeled, bags, 14@15c; unpeeled, 7@9c; prunes, four sizes, nominal, 5@5¼c; raisins, 2-crown, L. M., 4½@4¾c; do 3-crown, 5½@5⅝c; do 4-crown, 6@6¼c; do London layers, $1.45@1.50; do clusters, $1.75@2; walnuts, standard, nominal, 8@8½c; do soft-shell, 9½c; almonds, soft-shell, 8¼@10c; do paper-shell, 11@13c.

The Seed is the Vital Thing.

Planting must be hegun right, else no amount of cultivation or fertilizer can prevent the crop being a failure. The first step is the selection of the seed. Do not take any risks here. Get seeds that you can depend upon—seeds that are fresh, that have a reputation hehind them. Among the most reliahle seeds grown in this country are Ferry's Seeds. Wherever seeds are sown the name of D. M. Ferry & Co., of Detroit, Mich., is a guarantee of quality and freshness. The greatest care and strictest caution are exercised in the growing, selection, packing and distribution of their seeds. Not only must they be fresh, hut they must be true to name.

On a par with the quality of the seeds is Ferry's Seed Annual for 1897, a most comprehensive and valuable hook. Every planter, large and small, should get, read and digest this hook before planting a single seed. It is free to all who address the firm as above.

Horns on or Off.

From the very beginning there have been those who bitterly opposed the dehorning of cattle as unnecessary and cruel hut the tide of public opinion has turned against them. The operation is no more so than is the drawing of a tooth, to which we all submit willingly, because it subserves our best interests. It is found that after their horns are removed, cattle become quiet of disposition, and are much more easily and economically handled, for which reason the profit from live stock is greatly enhanced. In the selection of an instrument for dehorning, that one which will remove the horn quickest, cutting clean and not crushing the horn, must occasion the least pain and tberefore be the most humane and best. These are among the claims made for the Keystone Dehorning Clipper hy its inventor and maker A. C. Brosius, of Cochranville, Pa. Write to the gentleman, who will send you circulars and testimonials, etc., which will help you to reason this matter to your entire satisfaction and profit.

When grating a nutmeg start from the blossom end. It will be found to grate much more readily.

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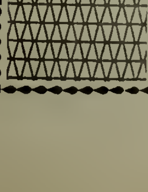

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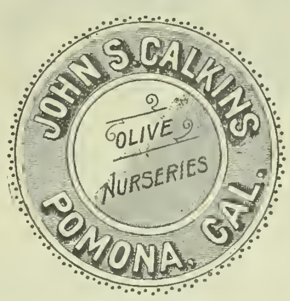

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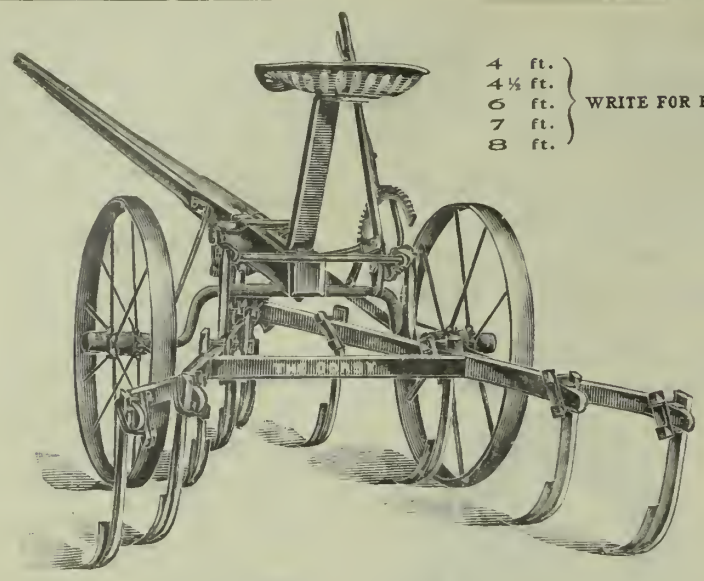

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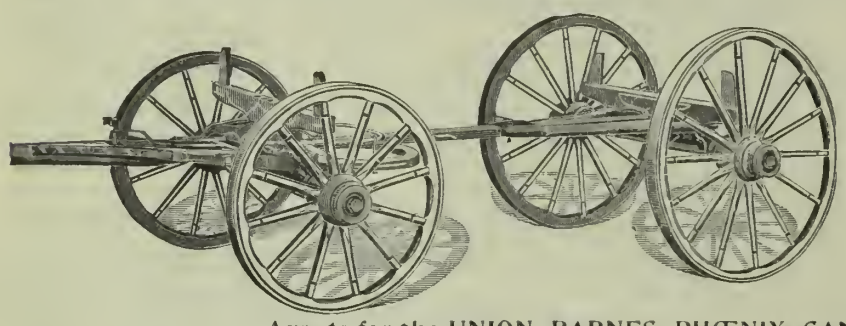

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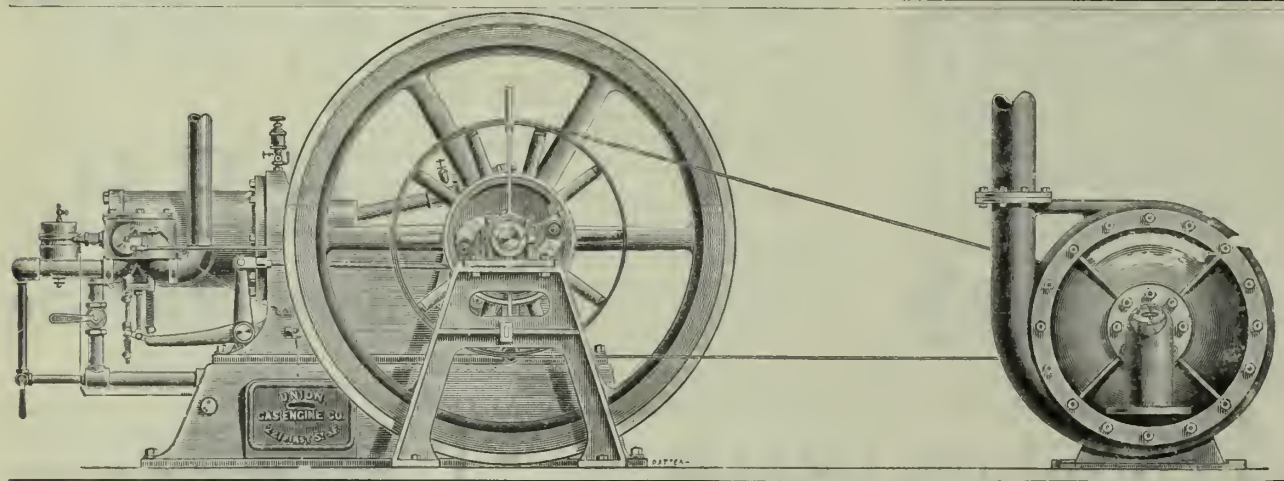

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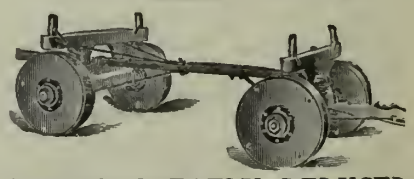

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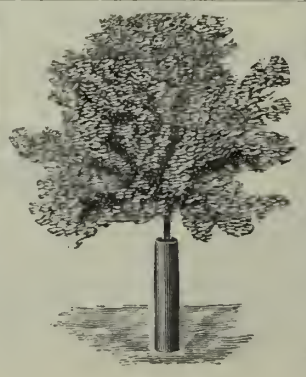

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Sole Manufacturer of PATENT TULE COVERS,

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THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LII. No. 26. SAN FRANCISCO, SATURDAY, DECEMBER 26, 1896. TWENTY-SIXTH YEAR. Office, 220 Market Street.

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Close of Another Volume.

This issue brings the RURAL to the close of its 52nd volume. Thus it reaches another striking point in its progress, for it now has on the shelves a bound volume for each week of a solid year, and is going forward with undiminished vigor. The index on the last page of this issue shows how broad has been the scope of its contents during the last six months, and how it thus ministers to the success of a well-equipped system of diversified farming.

The rather trying experiences of the last three years have taught many that there are decided advantages in the old fashioned practice of making a living from the farm and laying up of small surpluses from the receipts from quite a range of desirable productions. The forehanded people of the present year are those who owned their land and practiced the production of many crops for which the land and location were suited. They have never lacked bountiful supplies for the home larder nor have they lacked produce which could be readily turned into store goods or tax money. The people who have suffered most are those who have neglected the old ideals of farm thrift and have unduly launched out into specialties—too often on purely speculative bases.

We believe in specialty farming to the extent that each should choose products for which the local soils and climate are best fitted, but at the same time there has been too much disregard of the variety which almost all situations favor to a greater or less degree. The RURAL has labored steadily to keep these things before the eyes of its readers, and enjoys the conviction that it has persistently shown them the way by which they could do all agricultural things well.

The RURAL enjoys, also, the assurance that those who have applied this varied information to ministering to home needs and diverse market demands have reaped the reward of comfort, freedom from anxiety and forehandedness. Some of our boyish contemporaries, born during the specialty boom, have attempted to damn the RURAL PRESS with faint praise as an "all-around farming paper," while claiming their own work to be clear-cut specialty genius too bright to be dimmed by association with correlated branches of agriculture.

It is an amusing fact that of late they have courted the diversification which they formerly condemned in the RURAL and have done as well as they could with it in view of their lack of acquaintance with the themes. There never has been a time during the twenty-six years of the life of the RURAL when it did not surpass the whole group of special product journals, each in its own specialty, and ensure to its readers a view of the wide field of agriculture which every intelligent farmer should study to use his land and his opportunities to their greatest capacities.

The future will be as the past except more abundant. The RURAL PRESS will give the best practice, the latest materials, the soundest producing policies in all the wide range of outdoor effort for which California is so richly endowed. It is significant of the appreciation of this undertaking that during all these troubled times the RURAL circle has maintained its area and that the present reaction toward self support on the farm is bringing to our lists many who desire the fullest information on the ways through which the land yields a good livelihood to those who deal wisely and generously with it.

A CHAMPION SOUTHDOWN WETHER.

FARMERS' INSTITUTE work under the auspices of the State University is progressing at a rapid rate. Recent meetings in the San Joaquin and Sacramento valleys and in Santa Barbara and Ventura counties have been very well attended and a keen interest manifested. The effort is evidently very acceptable. The next on the list will be held at Woodland, December 28 and 29, and directly after the New Year there will be active work in all the leading divisions of the State. University extension in agricultural lines is becoming a very popular movement.

The Southdowns.

In the RURAL of December 12th we gave a group of high class Southdowns, and some notes of the characteristics of the breed. The same remarks are true of the fine wether shown on this page. His portraiture brings out well the splendid mutton form of the breed. The Southdown wether, Turlington, a few years since, won the championship at Chicago Fat Stock Show, and it is interesting to note that the Southdowns were this year victorious at the Fat Stock Show, Madison Square Garden, New York, where a yearling of this breed from the flock of the Pagham Harbor Company, England, was easily the victor over all breeds. In regard to the usefulness of the Southdowns for crossing on Merino, native or other sheep, the experience of Mr. R. E. Fitzgerald, Shiner, Texas, is of interest. He says: "I use all my thoroughbred lambs on my Merino flocks, and the cross is perfectly splendid. In 1890 I saw that we could no longer raise sheep as wool for profit only, so I continued to try thoroughbred Shropshires and Southdowns. I have nothing to say against the Shropshire, and if I had not tried them alongside the Southdown, I am sure I would have been satisfied with them, and thought that they were good enough. The Southdown is the hardiest sheep in the world. It was thought that no sheep could withstand our hot, dry climate like the Merino, but the Southdown will stay fat where the Merino will die of poverty. I saw that thoroughly tested the past winter."

This is a pretty strong statement, for fine breeds are not built up on poverty, and, as a rule, they do not hold their own under such conditions. But we give Mr. Fitzgerald's testimony as it comes to us. Surely a fat Southdown has stored up resources which can be long drawn upon, as the Persian can draw long upon the reservoir in its caudal appendage. California sheep growers should at least be sufficiently provoked by the testimony to make a good trial of the Socthdowns.

THE world's harvest of 1896 was at least 160,000,000 bushels smaller than the average of three preceding years. This shortage was caused by the diminished yield in the United States, Canada and Russia.

PACIFIC RURAL PRESS.

Office, No. 220 Market St.; Elevator, No. 12 Front St., San Francisco, Cal.

TWO DOLLARS PER YEAR IN ADVANCE.

Advertising rates made known on application.

Any subscriber sending an inquiry on any subject to the RURAL PRESS, with a postage stamp, will receive a reply, either through the columns of the paper or by personal letter. The answer will be given as promptly as practicable.

Our latest forms go to press Wednesday evening.

Registered at S. F. Postoffice as second-class mail matter.

ALFRED HOLMAN.....Editor.
E. J. WICKSON.....Special Contributor.

San Francisco, December 26, 1896.

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The Week.

Weather and Crops.

The rains noted in our last have done a vast amount of good in all parts of the State. Nearly everywhere the soil is moist enough for working and the mild temperatures are favoring the spread of verdure. During the week we have traversed some of the driest valleys of the State, and the grass is springing forward rapidly. The same mildness is freeing the citrus crops from menace and the fruit is coming on for early marketing. There seems to be activity and confidence in the farming regions beyond anything which has been seen for the last three years, and surely there are foundations for a merrier Christmas than usual. We trust it will thus be to all RURAL readers wherever they may be, and we go to press a day earlier than usual this week so as to be in time for the festivities.

Competition in the Lemon Market.

A New York dispatch of the 18th inst., is as follows:

Since the arrival and sale of a cargo of lemons early this month the market for Sicily lemons, owing to rather large arrivals and absence of demand, has been unsettled and weak, with only occasional indications of a rally. Accumulations of old stock here were not cleaned up until about the middle of last month, and by that time California had begun to assert herself as an important factor in the Western markets. The California crop this year is said to be 100 per cent greater than in 1895, or something like 300,000 boxes, most, if not all, of which will have to be marketed west of the Mississippi river. It is said that this, however, is expected to cut off a good deal of trade that heretofore has gone to the handlers of Sicily fruits. Notwithstanding the reputed difficulty Sicilian shippers have experienced in getting advances from bankers, shipments are heavier than last year.

There is a good chance for the right kind of tariff reform. With a little encouragement, California will supply the whole of the American market.

An Absurd Measure.

Congressman Sperry of Connecticut is the author of a bill which passed the House last week, providing for rural postal service. The bill provides for the appointment of letter carriers, who shall be at least 16 years of age, for the delivery of letters and other mail matter, whenever twenty persons shall petition the postmaster of any office for such appointment. Under the provision for payment for this service it is set forth that the carrier may receive from each person to whom he delivers or from whom he receives mail matter a compensation mutually agreed upon and which he must report each week, together with the number of pieces of mail matter handled, to the postmaster. If no compensation may be agreed upon then the carrier may demand not more than one cent for each letter or package handled, and upon the failure on the part of any person to pay, the carrier may return any mail he then has to the postoffice and cease service to that particular person. No claim on the Government may be made for any services so performed, as the payment from the petitioners is held to be sufficient.

The author of this measure, Mr. Sperry, expresses the belief that this new form of postal service is going to work a revolution in rural life, but the RURAL PRESS fails to see how it is going to make any difference to anybody. Practically it grants to any community which chooses to pay for a special messenger the right to have their mail delivered, but we fail to see the advantage of it. If any community wishes to hire a mail messenger they are quite free to do it without any special warrant, either from the Government or the postmaster. The only system of postal delivery that will be of any value in the country is a free service like that in the cities. To charge a farmer for the delivery of his letters or papers is only to increase his expenses without adding to what he gets. Mr. Sperry's bill is avowedly a "wheelman's measure." What is wanted is a "farmer's measure."

Gleanings.

FRUIT trees are already budding in some of the warmer sections of Solano county.

CHICO spends $20,000 per year for butter, but there is no creamery in the immediate vicinity.

BUENOS AYRES, December 16.—The wheat crop of a portion of the Argentine Republic is reported to be in a bad condition.

THE Oroville *Register* claims that butter made in the foothill regions is much better than the product either of the coast or mountains.

FOURTEEN thousand acres of land on the Chino ranch is already leased for grain and there are yet some 4000 acres more to be devoted to the same purpose. Some 10,000 or 12,000 head of sheep are grazing on another portion of this great principality, and several thousand more fertile acres will go out to beets.

WASHINGTON, December 17.—The National Wool-Growers' Association at their meeting here to-day transacted some left over routine business and then adjourned to meet here on January 4th next, preparatory to appearing before the House Committee on Ways and Means in behalf of a revised wool and woolen schedule.

THE car shops at Sacramento are busy just now transforming fruit freight cars into combination ventilator and refrigerator cars. While refrigerator cars have been handled by the company for some time, the combination car is something new, and will, it is expected, answer a long felt want in supplying both ice and ventilation.

PETALUMA *Argus*: "J. A. McNear, the well-known land owner, who anticipates great things to come of his Point Pedro property, has recently set out 20,000 young eucalyptus trees. This is but a starter of the tree planting which Mr. McNear proposes to do, for within a few years he expects to plant several hundred thousand gums on his property. He

THE Nevada cotton crop for 1896, is reported by the Pioche *Record* as follows: The Bunkerhill cotton crop this year will not exceed 20,000 pounds. The product per acre is as good as usual, but less was planted. The cotton product of the settlement is ginned by water power and shipped to the Woolen Mills in Washington county, Utah, where it is exchanged for goods.

A CREAMERY agitation is on at Tremont, Solano county. A correspondent remarks: "Butter is high and scarce, and good cows seem to be as scarce as the butter, because no one cares to engage extensively in the production of milk when within a few months its product will go begging for a market. Our farmers and financiers had better let their improbable projects go and grasp something within the scope of their ability."

A CORRESPONDENT writing from Elmira, Solano county, says: "The recent rains temporarily put a stop to grain planting. There is less land being left for summer-fallow than usual, which means a larger acreage of grain next year. Some of course have rushed to get all their land plowed before the rain and in consequence have 'cut and covered' a great deal and will blame the land for the poor crop. For the most part, however, good plowing and harrowing has been done."

THE scheme for a grand carnival in San Francisco is being revived. One of the proposed features is an assemblage of war vessels in the harbor. Preparations for Children's Day are rapidly progressing. It is proposed to have a chorus of at least 20,000 voices. The children will also be drilled in fancy movements, such as "A Living Flag," "The Birth of the Rose," and other unique features. The Board of Education is to be asked to make the mid-term vacation to concur with carnival week.

DISCUSSING the advantages of the new creamery at Livermore, the *Herald* cites the case of a family cow in that town, showing what she did for her owner in the month of November: "Seven hundred and twenty pounds of milk, that gave an average test of 5 per cent, made 35 pounds of butter, that was sold for 25 cents a pound, or $9 for the entire product. Add to this 15 cents per 100 pounds for skimmed milk, and you have $10 as the monthly yield of a town-fed cow, inclusive of the milk used by the family. The amount set aside for family use, if purchased from a dairy, would equal the cost of fodder." A pretty good record this.

G. ROSSATI, Commissioner of the Italian Government, who is making a study of American winery methods, is just now pursuing his investigations in this State. "The wine industry in the East and in California," he said, "are two entirely different things. In New York, Ohio and Missouri, the only Eastern States in which the wine industry is worthy of the name, grape-growers are endeavoring to make wine out of table grapes, and are failing signally. Their principal varieties of grapes are the Delawares, Concords and Catawbas. In California I find that the vineyards are producing the best variety of wine grapes, and so far as my observation goes in the limited time I have devoted thus far, the wine produced here is really excellent. This is particularly true of the white and light red wines. I have become greatly impressed with the methods employed by the California producers and with the large scale on which everything is done."

MR. A. H. GILSTRAP, an earnest champion of tare reform and standard packages, writes as follows in the Hanford *Sentinel* to the beekeepers of the State: "We must sell our honey, the bulk of it, east of the Rockies. The common tare here is what the cans and cases actually weigh. Those to whom we sell know they get net weight when they sell and they should pay for net weight. * * * * * If we use the same package, and that package reliable, we can sell honey without having empty packages weighed; but unless we use the same style package, we should let them tare to the extent of cans and cases and no more, just as they do where they sell the honey. Some Eastern honey merchants insist on the producer marking net weight on each package. I have tried the Wendling case and found that the partition made it much solider to handle than coil oil cases weighing one pound less. It would be much better to put such a case on the market, give it and two cans away in order to sell all the honey than to give part of the honey away too, as we have been doing; or try to sell our cans with the honey, which no one does, and which we cannot do."

From an Independent Standpoint.

In connection with the matter of Cuban recognition there has arisen between the President and Congress a question far more important than the original subject of discussion. The question is: Has Congress authority, independently of the President, to acknowledge the independence of Cuba? The Senate Committee on Foreign Relations say yes: Secretary Olney, speaking presumably for the President, says no. The Constitution does not precisely meet the case. It authorizes the President to "make treaties" with the concurrence of the Senate, but it expressly reserves to the Senate the authority to declare war. Those who assert the powers of Congress, it appears to us, have much the stronger side of the question. The authority to declare war and to sit in judgment on treaties, clearly implies, it would seem, that the *policy* of our relationship toward other nations is subject to the discretion of Congress; while the *execution* of that policy is quite or clearly within the province of the President. And if the President should decline, either from personal disapproval of the policy proposed or for any other reason to carry out the will of Congress, then the latter ought to be able to reason from analogies drawn from its powers in case of Presidential veto, to enforce its decrees independently. It seems to us an extraordinary contention that the power which may declare war may not recognize sovereignty; and the power which may not declare war may recognize sovereignty.

In the President's message, it will be remembered, the Cuban war was the leading topic. For various reasons, which he set forth fully, Mr. Cleveland held that the United States ought not to recognize the independence of the island. But the Senate Committee on Foreign Relations declined to consider this as final, and opened up the question for further consideration. Senators Morgan, Cameron and others urged the presentation to Congress of a joint resolution acknowledging the independence of Cuba, while Secretary Olney took a firm stand in opposition to it, and in line with the President's message. He made two special points of protest, (1) that the Cuban insurgents have established no government, and (2) that the right to recognize a new State rests with the President, independent of Congressional action. The committee heard the Secretary at length in support of these propositions, but his efforts were wasted, for on the following day—last Saturday—they reported to the Senate the following resolution:

Resolved, By the Senate and House of Representatives assembled, that the independence of the republic of Cuba be, and the same is hereby acknowledged by the United States of America.

SECTION 2. That the United States will use its friendly offices with the Government of Spain to bring to a close the war between Spain and Cuba.

It became instantly evident that this resolution would command a majority in both houses of Congress; and at this point the Secretary took a new attitude. Speaking for publication he declared that if the resolution should pass it could only be regarded as an expression of opinion on the part of those who vote for it. "The power," he continued, "to recognize the so-called republic of Cuba as an independent State rests exclusively with the Executive. A resolution on the subject by the Senate or by the House, by both bodies or by one, whether concurrent or joint, is inoperative as legislation, and is important only as advice of great weight voluntarily tendered to the Executive regarding his constitutional functions. * * * But except in these ways, and unless the advice embodied in the resolution shall lead the Executive to revise conclusions already reached and officially declared, the resolution will be without effect, and will leave unaltered the attitude of this Government toward the two contending parties in Cuba."

All of which means, when reduced to few words, that the President will refuse to recognize the action of Congress and will reserve to himself the whole authority in the matter of Cuban recognition. Very naturally, this has made a great stir at Washington, and there is a curious difference of opinion on the part of leading men. The greater number appear to be against the President's view of the case, but this does not indicate that the resolution

will have an easy time getting through. Numbers are not necessary to make debate formidable in the Senate, for without the cloture any means may be made the subject of interminable talk. While it is practically certain that, if put to a vote, the resolution would go through, the likelihood is that it will be staved off, at least for some weeks to come. The fact that the President has only two months more of official life will serve to assist in making delay. In one form or another, right or wrong, the President will likely be able to stand off the project for Cuban recognition so long as he shall remain in the White House.

Last week's comment on the Horse Show appears to have touched a responsive chord, for we have no less than half a dozen formal commendations. Of these we print two which add something to the argument. Our contention is that a horse show in San Francisco ought to be an American and Californian affair, and that an English horse show, while eminently suitable for England, is wholly out of place here. English fashions in horses and carriages grew naturally out of English conditions, but they are a total misfit in California. Our roads, as one San Mateo reinsman found out to his embarrassment quite recently, are not adapted to the English double-deck, top-heavy drag; and our highly-bred, slender type of road horse does not look well with his tail cut off. The English road cart is all right on English roads, but the jiggle of it on the average California road is well calculated to promote nervous prostration, not to mention the possibilities of kidney trouble. Again, any well-trained American team, suitable for domestic service, needs no other direction than the reins, the whip and the driver's voice, and the attendance of a retinue of agile lackeys is a stupid affectation. Worse than all, the subservient acceptance of English fashions and of English standards is an offense to patriotic instincts. Just imagine the condition reversed! What would be thought in England of a horse show in which American fashions and standards should be accepted as superior to the English? It simply "wouldn't go," because the national spirit is too high. Nor does it go here with anybody excepting a few—mostly persons recently grown rich—who fancy that they are never so "swell" as when they cease to be American. We have quite as good horses as the English; we have much better systems of equine education, and we have the lightest and best vehicles in the world. And when it comes to riding and driving, we are quite as well qualified as the English or anybody else. Why, then, when we give a horse show, should we disregard American types and fashions and borrow a set of types and fashions which don't belong to us? A cheap and vulgar affectation is at the bottom of the whole business, and the RURAL, for one, is ashamed of it.

Pith of the Week's News.

BACHTOLD's flouring mill at Selma was burned Sunday; loss about $25,000.

JAMESTOWN—better known as Jimtown—in Tuolumne county, lost thirty buildings by fire last week.

ROSWELL G. HORR, a well-known ex-Congressman and recently editor of the New York *Weekly Tribune*, is dead.

THE Valley Railroad is said to enforce the severe rule of employing nobody over thirty-five years of age in its operating department.

THE State University of California has a total enrollment of 2150 students, making it the fifth in the United States in point of numbers attendant upon its courses.

G. J. GRIFFITH, a wealthy citizen of Los Angeles, has presented that city with a 3000-acre tract for a public park. The present value of the land is about a quarter of a million dollars.

ABOUT the only public man in the country who is not submitting to interviews on the Cabinet question is the President-elect. Neither he nor anybody who has the right to speak for him has had a word to say.

ARIZONA is eager for statehood, and will urge her claims before the next Congress. The fact that the territory is Populist in politics and solid for free silver is not likely to promote her chances with a Republican Congress.

THE big Democratic Club of San Francisco—the Iroquois—is purging its rolls of all who did not support Bryan and Sewell in the late campaign. At the last meeting John P. Irish, W. D. English and Henry E. Highton were dropped from the honorary roll.

W. S. MELICK, editor of the Lancaster *Gazette* and Assemblyman-elect for Los Angeles county, finds that, while the last Legislature was more economical than previous ones, it paid out over $100,000 for it attaches' wages during the session. The forty Senators had 166 attaches at a cost of $876 a day, or $5.20 each a day, or over $52,000 for the session. The eighty Assemblymen had 152 employes at a daily salary of $819, or an average of $5.38 for each employe a day, or $50,000 for the session. "If," says Mr. Melick, "the number of attaches could be reduced in the Assembly from 152 or practically two to each member on the average to about half or one to each member, and thus save the State over $20,000 during the session without impairing the efficiency of the legislative work, we will be rendering our friends our first good service and prove that we are not posing as reformers or demagogues, but mean business, and that we will use the same horse sense in employing help for the State that we would use in our business."

THE California congressional delegation has united in recommending Hon. Horace Davis for a place in the McKinley Cabinet. Since Mr. Davis had made no effort in that direction, it is suspected that a hint came from Mr. McKinley himself. There could be no better choice in California than Mr. Davis. He is a man of wide experience and achievement in business, public and social life; his ability has been proved in half a dozen fields, and his knowledge of California is very close. As a miller and grain dealer, he has, to an unusual extent, come into personal relations with the producing class and he understands the interests of the farmers of California rather better, we suspect, than any other man who is likely to be considered for a Cabinet place.

The Outlook For Wheat Prices.

The Leading American and British Authorities Agree in Predictions of High Prices Throughout the Season.

The great authority on wheat and the conditions affecting its price—*Bradstreet's* journal—regards the "apparent lull" in the markets as due chiefly to motives of speculation and as "seeming to indicate that the bulls in wheat have largely disposed of their holdings and are willing that a reaction should follow, that they make a fresh start."

But in spite of this let up in speculative trading the conditions of supply continue to be favorable to the seller, the statistical position of the cereal being such that "dollar wheat" is far from being an unduly high price. The figures, reckoned up to and including the first week in December, show a net falling off in available stocks during November of 618,000 bushels on both coasts of the United States, whereas the usual November crop movement in this country results in a net increase of 10,000,000 bushels and more. Records of the movement of wheat, says *Bradstreet's*, make it plain that while net gains weekly in available supplies did not appear this year until the end of August, which was quite as late as a year ago, they began at the close of July in 1894. Weekly gains were followed by decreases in the middle of November this year, in contrast with regular and continuous increases of stocks of available wheat in like weeks in preceding years. One has to go back fourteen years, to 1882, to find a weekly decrease of 1,200,000 bushels in the available supply of wheat in the United States as early as the middle of November.

Those who think the statistical position of wheat at home and abroad is not a very strong one have relied for their argument on the enormous shipments of wheat to Europe since the first of August, apparently overlooking the extremely reduced stocks of wheat afloat for and in Europe on the date last named as compared with like dates in preceding years.

While it is possible that extremists in the United States have placed the probable crop of wheat harvested this year at too low a figure, there is reason for believing that the world's export surpluses, when placed in contrast with requirements by wheat importing countries for the seven months ending June 30 next, will find little to encourage bear sales of the cereal.

The fact that large exports from America, Russia, Roumania and Bulgaria have taken place during the past four months under the influence of the higher range of prices does not necessarily indicate any change in the question of supply and demand as applied to the whole season. One result is to make plainer what each country can spare for export and what each importing country approximately requires, for if exporting countries, under the influence of attractive prices, have shipped more freely than usual it has been done at the expense of subsequent exports. Thus, the United States has been shipping to Europe at the rate of over 168,000,000 bushels per annum, an impossible rate for the whole season; so, also, in respect to Russia, Roumania and Bulgaria, which since August 1 have exported at the unprecedented rate of 232,000,000 bushels per annum—a rate which it is obvious cannot be maintained.

The opinion is now held, notably, among others, by Beerbohm [a great English authority] "that the export movement so far this season is overdone; that is to say, it does not represent the exporting power of the exporting countries, but is rather the result of the more attractive level of values." While European requirements are not larger than they were supposed to be earlier in the season, with India and Australia importing the quantity available for Europe will be less than was expected at the commencement of the season, so that the statistical position is thereby strengthened.

TOTAL EXPORTS OF WHEAT (FLOUR INCLUDED) TO EUROPE FROM AUGUST 1 TO NOVEMBER 24, 1896.

From What Countries.	*1896.*	*1895.*	*1894.*
United States and Canada.	52,520,000	34,040,000	46,000,000
Russia	38,032,000	38,456,000	41,120,000
Roumania and Bulgaria	33,480,000	26,120,000	10,320,000
India	712,000	5,648,000	3,640,000
Argentine	1,168,000	728,000	9,040,000
Australia	.....	80,000	1,360,000
Other countries	5,360,000	5,560,000	5,080,000
Total bushels	131,272,000	110,632,000	116,560,000

The foregoing shows that in the sixteen weeks following August 1, 1896, the United States and Canada exported 18,000,000 bushels more to Europe than in a like period in 1895, and 6,000,000 bushels more than in 1894. Russia, on the other hand, exported about the same quantity this year as one year ago, but 3,000,000 bushels less than in the sixteen weeks of 1894. Roumania and Bulgaria, however, sent 7,000,000 bushels more across their borders this year to European countries than in the like portion of 1895, and 23,000,000 bushels more than in 1894. India's decreased European wheat shipments this year compared with last were nearly 5,000,000 bushels, and as compared with the sixteen weeks in in 1894 nearly 3,000,000 bushels. A like showing with respect to Argentine Bepublic points to an increase of 400,000 bushels as contrasted with last year, but a decrease of 7,800,000 bushels as compared with 1894. European shipments from Australia were *nil* in the sixteen weeks of this year referred to, 80,000 bushels last year and 1,360,000 bushels in the year before, while other wheat-exporting countries have not varied materially in the aggregate exports to Europe in the periods named. In all, there appear to have been exported to Europe about 21,000,000 more bushels of wheat this year during the sixteen weeks referred to than in 1895 and 14,000,000 bushels more than in 1894.

The crucial test of the statistical position of wheat, of course, must depend on the relation of the needs of importing countries between August 1, 1896, and July 31, 1897, to the probable available export surpluses held elsewhere. One of the most conservative authorities on this subject is Beerbohm, who estimates these totals as follows:

SURPLUS WHEAT AVAILABLE FOR EXPORT TO EUROPE AUGUST 1, 1896, TO JULY 31, 1897.

	Bushels.
United States and Canada	108,000,000
Russia	120,000,000
Roumania, Bulgaria, Turkey, etc	64,000,000
India and Pesia	2,000,000
Chili and Uruguay	4,000,000
Argentina	20,000,000
Australasia	.....
Other countries	12,000,000
Total bushels	330,000,000

ESTIMATED REQUIREMENTS OF WHEAT-IMPORTING COUNTRIES, AUGUST 1, 1896, TO JULY 31, 1897 (BEERBOHM).

	Bushels.
United Kingdom	184,000,000
France	12,000,000
Germany, Belgium and Holland	100,000,000
Italy	18,000,000
Spain and Portugal	14,000,000
Switzerland, Greece and Scandinavia	26,000,000
Other countries	6,000,000
Total bushels	360,000,000

This shows a balance of only 30,000,000 bushels, but the balance appears upon the wrong side. The London authority allows an American surplus for Europe of only 100,000,000 bushels, which, unless extreme bull estimates of the crop are found to be true, is likely to prove small, and may go far toward equalizing the total estimated export surpluses and requirements. Russia's probable export seems high at 120,000,000 bushels, as the crop there is undoubtedly smaller than last year. The requirements of France, however, have been estimated conservatively at only 12,000,000 bushels, particularly in view of the prospect for a poor crop there. If by stretching a point on the part of the United States and minimizing European requirements one is enabled to nominally make both ends meet, it still remains true that no one of the larger exporting countries is likely to draw heavily on its reserve stocks for export except under the stimulus of a marked advance in quotations.

Here, then, lies the strength in the position of wheat, entirely apart from the question of famine in India. As pointed out, Europe wants this season 360,000,000 bushels of wheat, of which 132,000,000 bushels had been shipped by November 24th, leaving 228,000,000 bushels still to be obtained. With Australia and India in the importing, rather than the exporting column, it would seem as if Europe would be obliged to secure its supplies to the end of this cereal year about as follows: Russia, 80,000,000 bushels; Roumania, Bulgaria and Turkey, 32,000,000 bushels; Argentina, Chili and Uruguay, 20,000,000 bushels, and other countries 80,000,000 bushels, a a total of 140,000,000 bushels, leaving, on the face of it, about 88,000,000 bushels to be supplied by America from the crop of the current year, and from reserve stocks. In any event, European authorities count at least on receiving 72,000,000 bushels of wheat from the United States between December 1st and the end of July next, and if current estimates of the size of the crop in this country are adhered to, and best estimates of the quantity of wheat carried over on July 1st last cannot be enlarged, the prospect between the present and the end of the cereal year is for a firmness in wheat prices which has not yet been experienced on this crop. Our English contemporary admits that "America has seldom held a stronger position as a price-maker than she does to day. She has already exported 52,000,000 bushels to Europe out of a maximum surplus of 100,000,000 bushels (?), whilst Europe wants at least 72,000,000 bushels more from her." It may well be added that under these circumstances the latter part of the season 1896-97 "is likely to furnish even more legitimate grounds for active and buoyant markets than the first part."

Concerning the Horse Show.

To the Editor:—The criticisms in the columns of your paper with respect to the recently held Horse Show are to a certain extent just and proper. It had undoubtedly a foreign character and was not a really American exhibition of American bred horses. The English may claim to be the greatest horse breeders of the world, and they certainly have had the enterprise and the money to produce all sorts and conditions of equine beauties. Yet I venture to say that it will be reserved for America and Americans, and especially California, to show the world that in point of substance and high mental development the typical American trotter, whether speedy or not, cannot be excelled. Despite his ability as a breeder, the Englishman is not the careful educator of his horses the American is; or it should, rather, be said that the breeder is not in as close touch with his charges as in America. His admiration for a horse contains a large amount of pride and an eagerness for fashion, while the average American has that love for a horse which is so productive of what is called horse sense, and establishes a relation between man and animal that seems to impart the dignity and reliability to the horse so characteristic of our best-bred trotting stock. This harmony between driver and horse was beautifully exemplified by the skillful handling of a six-in-hand by Foster, and again by H. J. Crocker's four-in-hand driving, all of which were American-bred horses. One could see that the horses tried to do their level best; there was no fancy prancing and dancing, or slackening of tugs—it was one steady endeavor to be useful, to fulfill their duty. And this feeling of utility and safety will always make the American-bred horse more a man's friend than his servant, and will make it unnecessary to carry along two flunkies behind, who at every stop rush from their seats to the horses' heads. Such dignified behavior on the part of the horses is not only strange to the Englishman's heart, but also does not conform to his ideas of animal servility. He wants the champing, fretting, unruly, prancing, high-stepping, dock-tailed and rattle-brained nag that attracts attention, needs continual subjection, and at least one if not two attendants.

This fad will never take root on American soil. It is foreign to the American spirit even of women, who are the judges of fashion, more or less. It is to be hoped that so admirable a horseman as young Hobart will not long be deluded by such false and foreign fads as the high-stepping hackney horse, for he is a useless, short-lived article of luxury. One does feel disappointed to see carriages, harness, horses, grooms and even judges imported to our land, that is so rich in skill and ability, and should not imitate other countries, but should establish a standard distinctively American.

It is certainly a credit to this State that we have had such a well-conducted Horse Show, and the men at the head of the concern deserve much praise for their endeavors. Yet the officials will sooner or later feel the necessity of allowing much more room to our American-bred—especially California-bred—horses. The president, H. J. Crocker, seems to have a predilection for the native horse, and it is to be hoped the wish of the public will not be altogether disregarded. Let the rich have their sport and luxury, but let them not brag of it and parade it before the public with too great persistency; and, above all, let them remember the grand fact that they are American citizens, and not English "subjects."

There were a number of redeeming features to the Horse Show, such as the fire engine teams, the park police, the roadsters, but they were greatly in the minority. The principal part of it were the hackneys, and this gave the whole affair a foreign appearance, which has been justly ridiculed and condemned. Take it all in all, even with its foreign element, the Horse Show was instructive and interesting, and it would be a great pity if, through lack of patronage, it could not open its doors again. Yet the directors should bear in mind that there would be a larger number of exhibitors of fine horses if the intrinsic worth of a horse would be judged rather than the belongings, such as harness, robe, wagon, or even the man's clothes. Fidelio.

San Francisco, Cal., Dec. 18, 1896.

The Late Horse Show.

Scope for Lots of Horse Sense and Horse Energy.

To the Editor:—Reading with much satisfaction the "Standpoint's" remarks on the San Francisco Horse Show, one is struck with the amount of misdirected zeal and misapplied energy on exhibition thereat. A number of our best bred young men (men, that is, whose brainy fathers endowed with foresight and industry, heaped up stacks of coin), with ample leisure and abundant means, who might, could, would, should and ought to be of immense use and value to the country, appear to have been educated into the idea that the great aim of life is uselessness, and that the only genuine gilt-edged nobility is sluggish ignobility. What is called "society" has become so affectedly artificial that the eye of day is avoided as much as possible, and "society" chiefly meets by artificial light, carefully keeping its bed when all nature wakes to stir and action.

This perverse cussedness (quite unintentionally, I think, for I am sure lots of them are jolly good fellows), seems destined to crop out, even at the Horse Show. Here is all California howling "good roads;" the "Show" proffers three dog carts and top-heavy drags, utterly unfit for the average Californian roads, and which, if called upon to turn out and keep on their half of a mountain road, would forever terminate the owner's ambition to introduce English vehicles into the Woolly West. Help us first, O Horse Show directors, here to achieve the excellency of English roads, then bring on all the three-deckers you want!

Your State also wants your help to piece out another highway. There's a highway we call God's highway, because it's free to all, and He keeps the track clear and clean. It extends wherever waves beat and waters flow; but one little extension of it is yet most urgently needed if the Pacific coast is not to suffer continued arrested development from commercial isolation.

Where's the young and ardent American youth who will devote his time and energy and coin to the advancement of his native State, and the rehabilitation of the American commercial marine by forcing the construction of the Nicaragua Canal? No enterprise could more benefit the Pacific Coast, no achievement confer more lustre on the man who should push the work. Won't some young millionaire turn all his horse sense and horse energy into this channel and make his memory illustrious? Surely one of our gilded youth can be found to devote his wealth to the commonwealth.

Pacific Grove, Dec. 20, '96. Edward Berwick.

ENTOMOLOGICAL.

Black Scale Enemies and Parasites.

By J. F. McIntyre of Sespe at the Farmers' Institute at Fillmore.

I was requested to write upon the *Rhizobius ventralis*, but I desire to enlarge the theme so as to include all the enemies of the black scale, because I do not think it so important to farmers whether any particular insect is a success as the general fact whether or not we can depend upon any or all of the enemies of the scale together to clean our orchards, and whether we have to depend upon the expensive gas treatment or not. In all my experience as Horticultural Commissioner I have only advised the gas treatment for black scale once, and have doubtless saved the county and fruit growers thousands of dollars by that policy.

Leading Enemies of the Black Scale.—I cannot do better in this paper than to give you my experience and observation of various orchards throughout the county that have been practically cleaned by natural enemies. To commence at home, I have orange trees 20 years old; they have never been sprayed or gassed and are perfectly clean to-day. When these trees were from 5 to 7 years old they were badly infested with black scale. About this time three enemies of the scale made their appearance, and in a year or two became very numerous, cleaned out the scale and have kept them out ever since. The three enemies that did the work were the twice-stabbed lady bird (*chilocorus bivulnerus*), the ashy-gray lady bird (*coccinella abdominalis*) and a small four-winged chalcid fly known as *Dilophogaster Californica*.

Lone Hands.—Sometimes one of these enemies will clean up an orchard alone. A few years ago the olive trees on the Camulos ranch were badly infested with black scale and the twice-stabbed lady bird cleaned them out alone. I never saw this lady bird so numerous in any other orchard. On the underside of some of the large branches you could find patches of pupas and old larval skins six inches in diameter, and it was no trouble to stand on the ground and count fifty or more of the beetles in one tree. I know of another case near Saticoy where an apricot orchard was nearly cleaned by the little chalcid fly. We had placed the *Rhizobius ventralis* in the orchard about a year before and were beating the trees to see if we could find them. We did not find the lady birds, but we did find our sheets covered with the little chalcid flies, and nearly all of the black scales had holes in their backs where the little flies came out.

Working in Company. Two years ago a part of Mr. Blanchard's orange orchard was badly infested with black scale, and he asked me to make an examination, and advise him whether he should fumigate the orchard or not. I found no less than five enemies of the black scale in this orchard, including the rhizobius, and advised Mr. Blanchard not to fumigate. In less than a year I visited the orchard again, and found it almost clean. Mr. Blanchard said that it was never so clean before, and had spent thousands of dollars spraying and fumigating. I know of several other cases where the *rhizobius ventralis* has cleaned up small orchards alone, but they were all within fifteen miles of the coast.

A Triumph for the Rhizobius.—I will mention one case which would go to show the superiority of the black ladybird as a scale destroyer where the climate is suitable for it to breed. A five year old orchard near Santa Paula was perfectly black with scale and smut but the twice stabbed ladybird had commenced on them and were getting quite numerous when I sent a colony of about 200 rhizobius to the orchard. As soon as the second generation of rhizobius had developed into perfect beetles I commenced to collect them for shipment to other parts of the State. At this time the twice stabbed ladybird was as numerous as the rhizobius and although the latter was taken out and the former left in the orchard the rhizobius was very numerous and the thrice stabbed had almost entirely disappeared. At Nordhoff and Bardsdale and other places back from the coast the rhizobius does not increase but finally disappears altogether, but near the coast they not only clean up the black scale but the hemispherical scale as well.

Heat and the Black Scale.—Last summer I was called to Nordhoff to examine an olive orchard that was badly infested with the black scale. The rhizobius had been colonized in this orchard two years previous, but were not doing any good, and the owner wanted to know if he should spray or gas the trees. I examined the orchard carefully, and only found two lady birds, but the weather had been very hot ten days previous to this time. The thermometer rose to 110° in the shade, and nearly all of the black scale was dead, killed by the heat, and the owner was advised to leave the scale to the tender mercies of the Ojai climate.

At Bardsdale an orange orchard was badly infested. The black lady birds (*rhizobius*) had also been tried in this orchard and failed. On examination of this orchard I failed to find a single enemy of the scale, and, as the weather had not been so hot at Bardsdale, the scale were all alive and healthy. The owner was advised to gas this orchard, as there was no prospect of it being cleaned either by heat or natural enemies. I hope, however, that the owners of citrus orchards in Bardsdale, Fillmore and Sespe will not be obliged to gas their orchards over two or three years to keep down black scale. If the twice-stabbed lady bird will thrive at Camulos and at my place, it will thrive at Bardsdale and Fillmore. The little chalcid fly (*Dilophogaster Californica*) will also thrive here and prove a valuable ally to the twice-stabbed lady bird. We must assist nature, however, and bring the little friends to our orchards every time we have an opportunity. They can be found in some orchard in the county at all times; they seem to pass over the county in waves or cycles, taking several years to pass from one side of the county to the other. The black scale has many enemies in this and other counties, and, if we are only persistent enough in importing them, we will some day find the enemy that will do best in our locality.

METEOROLOGICAL.

Smudge Fires for Frost Prevention.

At the recent convention of fruit growers at Sacramento a comprehensive paper on frost and its prevention was read by W. H. Hammon, forecast official of the Weather Bureau at San Francisco. Mr. Hammon read a similar paper at the University Farmers' Institutes held in April of the present year in southern California, and the chief parts of it are to be found in the Rural Press of May 2, 1896. This recent publication makes it unnecessary for us to reproduce for our readers the discussion of the occurrence of frost and other similar phenomena, and we pass at once to Mr. Hammon's revised description of the methods of smudging which have so far yielded best results in California.

Damp Smudge Fuel Preferable.—It has been observed that, as a rule, whenever damp fuel was used the efforts at protecting are more successful than at other times. In the case of dry smudge material, the heat of the fire raises the temperature of the air about the burning fuel to hundreds of degrees above the surrounding air. It is consequently greatly expanded, and its density diminished so that it rapidly rises and the neighboring air flows in to take its place. This also is, in turn, heated and escapes upward, carrying the heat and smoke of the fire with it. On reaching an elevation considerably above the trees, it is blown away more or less rapidly by the constant circulation of air at such an elevation.

When damp fuel is used, a considerable portion of the heat of the fire is expended in evaporating the water in the fuel and the consequent upward draft of the fire is lessened by this amount.

A More Important Result.—By far the principal cause of the protection obtained from the wet smudge consists in adding moisture to the air, and thus making sensible the latent heat of condensation at a temperature above the danger point. As mentioned above, when damp fuel is used a considerable portion of the heat produced by the fire is expended in evaporating the water in the fuel. The vapor thus formed is invisible, and has all the properties of a gas, and quickly distributes itself throughout the surrounding space almost as rapidly as air will expand to fill a vacuum, for it is a property of gases that each will occupy a given space in almost the same manner as it would if the others were not present.

Fires of Damp Straw and Stable Manure.—Have the fuel, in small piles, distributed throughout the orchard in advance; the more numerous the piles the better. With the same amount of fuel the best protection is obtained the smaller and more frequent the fires, since, with small fires, the upward draught is reduced to a minimum, and the more frequent the fires the more uniform will be the distribution of heat.

Sacks of Manure.—Messrs. Buck, La Rue and others have packed damp stable manure in common grain sacks, by which it can be conveniently handled. They are distributed through the orchards in rows of from 100 to 200 feet apart and about 50 feet between sacks in each row. When it is found necessary to protect, a small amount of coal oil is poured upon each sack and ignited. It is usually unnecessary to fire more than every second or fourth sack, the remainder being left for later occasions. These sacks will burn with a smoldering fire for several hours.

The amount of heat which is set free by burning one sack of manure weighing about 90 pounds, and condensing the vapor near the surface, would be sufficient to raise the temperature 20° in a space 100 feet square and 25 feet deep. If one-fourth of this heat remained within the region needing protection, which seems to be a reasonable estimate, ample protection would be obtained for almost any conditions experienced in the fruit districts of California during the deciduous-fruit season.

Bales of Wet Straw.—Mr. T. A. Morrison suggests the use of a similar plan, in which he substitutes the use of wet straw in bales for manure. He suggests that a deep furrow be plowed along the windward side of the orchard, in which should be placed the bales of straw on edge. He thinks that about ten bales would be sufficient to protect a ten-acre orchard for one night.

Prunings.—The prunings of the trees, which we usually removed shortly before the period when frosts are likely to do them greatest injury, are excellent smudge material, and should always be preserved for this use. They should be piled in open spaces throughout the orchard and burned at times when protection may be needed. The best results will be obtained from as small fires as will still result in burning the prunings.

The Fleming Fruit Company's Process.—One of the first to adopt a plan of portable smudge fires was

the Fleming Fruit Company of Visalia, Cal., the manager of which thus describes his method:

"We built wire frames on our low truck wagons (chicken-yard fencing) stretching them from four wagon stakes and heaping over with wet manure. Dirt was then thrown on the wagon beds to protect them and pots of burning tar were set underneath the straw roof. A barrel of water on the wagon was used to keep the straw wet. These wagons were driven about and did the best work, as they could go wherever most needed. The smoke and vapor were carried to the rear as the wagon moved, and, being carried at once out of the rising heat, fell close to the ground in a long, white trail. At daylight our whole 400 acres of orchard were covered with a white fog, extending from the ground to about 20 feet high."

They also used similar fires as stationary smudges, the wire netting being stretched between four stakes driven in the ground, and a similar plan has been since experimented with by Meacham Brothers, of Riverside, Cal.

The Plan of the Rio Bonito Orchard Company.—A modified form of the Fleming process was used with excellent results by this company at Biggs, Cal. In this case rough sleds were constructed at a cost of less than $2 each. The runners were of 2x4 scantling, which were connected by a few boards about 4 feet long. Upon these dirt was piled to hold the pot of burning tar. The four upright sticks were spiked to the runners, and between these, about 18 inches above the bed of the sled, was stretched the chicken wire netting which supported the wet straw or manure used as smudge material. Four of these sleds, two wagons rigged after the Fleming plan, and about 500 sacks of manure were found sufficient protection for an orchard of 300 acres during each night of the severe April frost of 1896. The orchard was successfully protected during six successive nights of severe frost at an expense of less than 1% of the value of the crop undoubtedly saved by this means.

The Howard Method.—Mr. R. H. Howard, of Riverside, Cal., has devised a somewhat similar plan, which undoubtedly will be found very efficient. The fuel used is crude petroleum, supplied to the burner from a tank on the wagon or truck containing the apparatus. Over the burner is placed a large wire basket containing mineral wool, which is kept saturated with water suppled by a tank, also placed upon the wagon. Wet straw or manure could also be used, if desired. The apparatus can be driven baout the orchard where most needed. The burning coal oil gives off a dense smoke, while the wet mineral wool will furnish a vast amount of surface from which evaporation can take place, and at the same time the material will not be consumed. Mr. Howard suggests the use of somewhat similar devices for stationary evaporators placed in various portions of the orchard.

Mr. George F. Ditzler's Machine.—A number of more or less expensive mechanical appliances have been devised which depend upon this principle for their success in protecting. Undoubtedly, among the best of these should be mentioned that of Mr. George F. Ditzler, superintendent of the Rio Bonito orchards at Biggs, Cal. The machine consists of a large sheet iron tank between 3 and 4 feet square and deep, which is mounted upon a truck. About 6 inches from the bottom of the tank a wire screen or grate is erected. Through a hole in the tank beneath the screen a blast is admitted, which is produced by a revolving fan similar to those used in blacksmith forges. This is operated by a sprocket chain and wheel attached to the wheel of the truck. A water cask and force pump, operated by the movement of the wagon, complete the outfit. In operation, a little tar or other fuel is placed upon the grate and ignited, and the tanks then filled with wet straw or manure, when the machine is put in motion. The blast thus produced causes an intense fire, which will burn the wettest of fuel, and all the heat of the fire must pass up through the 3 feet of wet material before it can escape into the air. By this means, almost the entire heat is consumed in evaporating water, which quickly condenses after escaping from the tank and forms a dense fog or mist. That the heat of the fire is thus expended in evaporating water is evidenced by the fact that the air which escapes from the tank charged with moisture is but little warmer than the surrounding atmosphere. While the machine is in motion water is continually pumped from the cask and discharged from small holes about the top of the tank upon the fuel. The machine is driven forward and back between the rows of trees in the orchard. It is said that one such machine will evaporate 100 gallons per hour, which, under the conditions it produces, should protect about fifty acres. The fog thus formed in the orchard is so dense that the driver frequently has to go ahead and lead the team, since he cannot drive them from the truck.

Probably no greater protection has been obtained from the burning of the same amount of fuel than by this machine, since but little, if any, of the heat is wasted; however, it may be a question if the gain over that obtained from the use of other portable smudges is sufficient to warrant the increased expense for constructing these machines.

HORTICULTURE.

The Situation in California Lemon Growing.

By N. W. Blanchard, of Santa Paula, at Farmers' Institutes in Santa Barbara County.

There is hardly anything new now to be said on the growing of lemons—the time when the lemon should be taken from the tree, the merchantable size of the fruit, care to be used in handling it, the so-called "curing process," and to go over this ground again would be like threshing old straw. I will therefore consider other features of the lemon business.

Style in Lemon Packing.—The packing of lemons that I have seen in the several packing houses is good and if the lemons from said houses do not turn out well the cause must be inherent in the fruit or possibly be due to injury in shipment. Buyers of fruit are governed a great deal by its appearance and the neatness with which it is packed. Fruit is bought largely by the eye. I was told in the East that a red apple would sell for more than a white apple though the latter might be better; there is a suggestive thought in this for all fruit growers. Many of the best imported lemons have the top of the box decorated with spangles, gilt wire, tin foil, chromos, etc.

Boston Sales of Sicily Lemons.—I spent the past summer in the East and noticed the character of the lemons for sale and witnessed the auction sale in Boston of two cargoes. They were catalogued in lots as low as three half boxes and as high as 100 and more boxes. These lots were displayed under a large shed on the wharf and a sample box or boxes of each lot were opened for examination prior to the auction, one catalogue containing about half of one cargo I have footed up and find 450 lots aggregating 16,511 boxes of lemons, averaging 37 boxes to the lot. The auction sale was open to everybody and there were perhaps 100 buyers present. The fruit sold rapidly, all being sold in a few hours. One of the steamers that brought the fruit was specially adapted to carrying lemons having many air funnels that could be turned to catch the wind and force the air down between decks. The other was called a "tramp steamer"—a vessel not equipped for fruit and not regularly in fruit carrying business.

The lemons in one catalogue footed up averaged $2.09 per box and it was currently remarked that somebody lost money on the shipment but I have been hearing of the losses on lemon shipments from Sicily for several years and I am now disposed to take the statement with a grain of salt.

What Lemons Cost in Sicily.—The U. S. Consul at Catania, Sicily, reports the cost of labor in lemon handling in Sicily (reduced to U. S. money) as follows: Overseer, per day, 53 to 63c; experienced women who select the fruit, 31c; wrappers (in tissue paper), 19c; girls who clean lemons (pick out lice with sticks and brushes), 14c; girls who do other various kinds of labor, 16c. All these are (with the exception of the overseer) women and girls, who have to feed and clothe themselves out of these scanty wages. They live upon a "panuzza" (small loaf of bread) three times a day with a little fruit, a plate of maccaroni and perhaps a glass of cheap wine. They commence work early in the morning (at this season before daybreak), do not eat anything until 10 or 11 o'clock, when they rest a few moments and eat their bread. The men who make and nail up the boxes receive 45c per day, and those who pick the fruit from the trees 27c. Another expense is transportation of the fruit to the city, depending upon the distance.

Lemons are bought by the thousand, counting 1040 to the thousand. The price paid for the September to December crop runs from $2.16 to $2.52 per thousand. The January to May crop runs from 90c to $1.25, although extra choice fruit of this crop which will bear shipping from England to the United States brings as high as $1.80 per thousand. The large lemons known as "spata fora," which are yellow in February and March, bring $3.60 to $4.50 and even as high as $6.30 to $7.20 and even higher, per thousand.

Estimated Cost of a Box of Sicily Lemons in This Country.—The cost of freight to this country is, I think, about 30c per box. Estimating our labor to average four times as much as stated in the Consul's report and taking the fourth part of my labor expense per packed box of lemons of last year for the cost of labor in Sicily per packed box, say 15c; cost of wraps (estimated), 10c; cost of box (estimated), 18c; 360 lemons at $1.25 per M, 45c; steamer freight (estimated), 30c; tariff, 16c; incidentals, 10c, makes the total cost of a box of Sicily lemons laid down in New York at $1.44. This cost shows a profit of 65c, less commission, on each box included in the Boston sale which I have described above. This sale took place in Boston on July 23d and the lemons were poor stock—called "soft." All was soft stock, and lemons were very cheap the whole season; except for a very short period they could be bought on the street for 15 to 25c per dozen.

Consignments Condemned.—There are some things nearly every grower has to learn for himself, and one of them is the fallacy of consignments. They are so universally disastrous in their results that no better application could be found of the adage that "a fool and his money are soon parted." If you will be your own salesman, at least insist on making your sales for cash f. o. b. You expect cash in dealing with your neighbors; then why not with strangers? And why not f. o. b., so as to avoid future controversy and the inevitable rebates that ensue when the goods get out of your control on any other terms?

Must Have Large Prunes.—The time has now come when it is a "survival of the fittest," and not only the curing and marketing, but proper cultivation, demands our best efforts. With prunes at 3 cents per pound, only the grower of large ones can survive; the grower of small ones must certainly fail. Formerly the same price was paid for green prunes to all alike—a manifest injustice to careful growers, which the writer tried to overcome by buying according to grades at corresponding prices, but he was ahead of the times. It is now being done to some extent, and must soon be the universal rule—the sooner the better, as it will drive the grower of small prunes out of the business. In order to grow large prunes continuously, two things are particularly necessary—pruning and fertilizing.

Pruning Must be Done.—The writer's advice to continue pruning after the trees began to bear caused considerable adverse criticism, which was to be expected. The words used were as follows: "Don't get rattled on the subject of pruning, which has proven a most prolific breeder of crank—no two alike." Prune, prune when the trees are young, prune when they are old; never, of course, to excess, but until they have a stout, stocky trunk, capable of sustaining large crops without bending or splitting. Then keep on pruning and you will never regret it. A magnificent tree with its branches sprawling all over the ground, splitting and cracking under its load, is a scene too shiftless and degrading to dwell on. The experience of later years has but served to intensify that feeling. No grower disputes the necessity of severely thinning peaches and apricots by hand, but it is generally conceded that it is not practicable to thin prunes in the same way. I am not so sure of that, because, even if it cost 1 cent per pound to thin, it would pay on account of the enhanced price of the product. The same result is obtained by constant and judicious pruning, and trees must be pruned every year to continue bearing good fruit. The shiftless growers who are so lazy as to allow their trees to go unpruned, with their limbs sprawling all over the ground, and consequent splitting of trunks, must expect to have their future crops ruined, the fertility of the soil exhausted, and a depreciated and unsalable orchard on their hands.

Importance of Fertilizing.—It is almost as important to fertilize thoroughly after the crops begin to bear, as an average crop of prunes takes out of the soil about six pounds of potash, nearly four pounds of phosphoric acid and about one-half pound of nitrogen, or nearly four per cent of the entire crop. One-half of this is potash, which must be returned through the medium of commercial fertilizers rather than by manure, or you cannot raise big prunes. Unpruned and unfertilized orchards do sometimes bear heavy crops, but it is their dying effort; like a chicken with its head cut off, it does not last long. Small prunes are no credit to the grower and no use to the consumer, and should either be sold to the distillery to make brandy, which is the very worst possible use they could be put to, or used to fatten hogs, for which purpose they are worth more than the current price of 1 to 1½ cents.

Prune-Fed Pork.—The suggestion in my former address of the possibility of prunes ever being used for hog feed was considered novel and amusing, but it has been tried since then in various parts of the State with gratifying results. As hog feed they were found to be equal to barley, ton for ton, and an acre of barley will average 2500 pounds, while an acre of prunes will average 10,000 to 12,000 pounds. Hogs fed on clover and prunes will produce hams the rival of Westphalia or any in the world, and will sell for double the price of ordinary.

Processing and Shipping.—Quite a controversy has arisen during the last two years as to the best method of curing prunes, and advocates of lye dipping and of the patent pricking machines have each made good use of the press in maintaining their position. The writer expressed his views quite forcibly in favor of the lye-dipping process in a brief paper read before your 1894 convention, and after a careful perusal of all the articles published in defense of the patent prickers he sees no reason to change his views expressed at the time they were introduced. The statement that shipping in sacks was a "device of the devil, concocted in Chicago," coupled with an earnest plea to ship only in boxes under the grower's brand, was treated at the time as an eccentricity. Everybody was shipping in sacks, which became filthy almost before delivery at the railroad depot, owing to the juice exuding and gathering the dust. Many of them rotted and tore, caused no end of reclamations, while the absence of

brands enabled unscrupulous dealers to mix the poorest with the best.

Importance of Boxing.—The dissatisfaction was so great that a radical change had to be made. Last year a large proportion of the crop was boxed, and this year a larger proportion than ever. Every wholesale shipper and every exchange should have a trade mark with which to brand all their boxes, after seeing them carefully and honestly packed, and when this becomes the rule we may expect a very decided improvement in the present condition of the business. The writer has always considered this a matter of such vital importance that his temporary withdrawal from active participation in the business is largely due to this cause.

Every food product of any real merit produced in the East or Europe is packed in attractive boxes with labels and wrappers that are veritable works of art. Then why should such luscious fruit as a well-cured prune be shoveled into sacks like potatoes? The prune business has so far been an absolute gamble, one year's experience being no guide to the next. Our careless methods of shipping have been largely responsible for this, as buyers could not be induced to buy a "pig in the poke," but a uniform system of shipping in boxes under guaranteed trade marks will do more to solve the problem of overproduction and proper distribution than any other one factor in the business.

Growing the English Walnut.

At the University Farmers' Institute at Goleta, Mr. F. E. Kellogg of that thriving locality in Santa Barbara county, gave an extempore address on the English walnut. He recalled the fact that his father planted English walnuts in nursery in Napa valley as early as 1848 and moved the trees into orchard in 1852. He was informed that some of the trees are still standing. The soil was deep loam beside a creek.

Soil and Exposure.—The soil best suited to the walnut according to Mr. Kellogg's observation, is a rich sandy loam, having, however, a due portion of clay in its composition and water should not stand within ten feet of the surface. Soil containing alkali will not do; nor should there be any hard pan. Soil on which corn and squashes grow to perfection and large size is suited to the walnut. As to the previous occupation of the soil by oaks he could not see that that was any special objection as some have held. Some of the best walnut orchards at Goleta have been grown on oak land.

The climate for the walnut should be equable. It should be free from raw, cold winds.

Starting the Trees.—To sprout walnuts for growing seedlings, he would place them in a seed bed in January and cover to a depth of two to three inches with sandy soil. If the weather is dry the soil must be artificially moistened. When the nuts are sprouting plant them in nursery rows and leave the trees in nursery one, two or three years as you choose—not transplanting until a good thrifty growth is attained. In digging trees a tap root of two feet in length should be retained. Well grown and well planted trees, well cared for in orchard should bear when five years old and be very profitable at eight years. Aside from the nursery it is feasible to plant the nuts directly in permanent place, staking off the ground and planting two nuts at each stake, afterwards removing the weaker tree if both start. Some good orchards at Goleta have been grown in this way.

Pruning.—Mr. Kellogg believes in starting the tree at 3½ to 4 feet from the ground and pruning, so as to get an upward turn to the branches, to admit of cultivation. He believes this is better than starting a tree with a high trunk and horizontal branches. Except such pruning as is necessary to secure this convenient form of the tree, the less pruning the better. The pruning can be done at any time after harvesting the nuts until the following February. It does not seem to be necessary to do it at any particular time.

Harvesting.—Shake off the nuts by using hooks with which the upper part of each branch can be reached and shaken. Pick up the nuts and remove the hulls by hand. A machine is needed to gather walnuts, also to clean and polish the shell. The use of sulphur is objectionable, because of injury to the kernel; consequently, some mechanical polishing process would be desirable as a substitute.

Varieties.—The Improved Soft-shell, or, as it is now commonly called, the "Soft-shell," is the best nut to grow. It originated at Joseph Sexton's place in Goleta, and is believed to be a cross between the paper-shell and the hard-shell. It is a large and handsome nut, ripens early, hulls freely and sells for the highest price. The *Kaghazi* has been grown to some extent in Goleta and is believed to be a promising variety.

Crop.—Santa Barbara has shipped 500 tons of walnuts of a value of $70,000. The outlook for the nut is good. The price holds well and bids fair to continue. The area suited for successful walnut growing seems to be limited. Mr. Kellogg strongly urged co-operation among walnut growers in marketing their product. Organizations now effected will ensure the success of the business, if they are well supported.

FRUIT MARKETING.

A Conservative View of the Prune Industry.

In 1892 Mr. James E. Gordon, a Santa Clara county prune grower, read an essay at the Fruit Growers' convention, which conveyed views of the immediate future of the prune industry which were quite at variance with the boom sentiments then prevailing. He protested strongly against booming the prune business. At the convention of fruit growers in Sacramento two weeks ago, Mr. Gordon presented an interesting paper referring to his previous statements, and pointing out their significance and influence.

Prophecy Fulfilled.—When I first addressed your body on this subject at your 1892 convention, in San Jose, I did not realize how widespread the effect of those views, backed by your indorsement, would be; but when I found the address copied "verbatim et literatum" by so many California and Eastern newspapers and magazines, kindly commented on by all, I felt as though my labor had not been in vain. And later on, when told by prominent nurserymen North and South that it was affecting their sales of prune trees to the extent of hundreds of thousands which might otherwise have been planted, it was gratifying to feel that I had been of service to my fellow-man.

Four years have elapsed since that time, and a careful perusal of the address then delivered convinced me that the conclusions reached were correct, and are only intensified by the existing conditions of to-day. The advice then given for all to keep out of the business who did not possess all the necessary qualifications to insure success holds good to-day, and I am rejoiced at the assurance that many have taken and profited by the advice.

Value and Area of Prune Orchards.—In spite of the adverse criticism of land owners, the suggestion that $150 per acre was as high as the business would stand is emphasized by current prices of orchards selling to-day on a basis of $100 per acre, which cost their owners double. In other words, improved orchards nearly ready to bear are selling to-day for just what the bare land was held at five years ago. Land in Santa Clara county that was then selling at $200 per acre can now be had for $100 per acre, and the decline is still more marked in other parts of the State. There are no more $1000 per acre orchards now; $500 per acre commands the cream of the valley, and while we all know that it is all Grover Cleveland's fault, still the fact exists nevertheless. Prune trees were then worth in the nursery $20 per thousand; now $5 per thousand. The Tulare *Times* states that a fine prune orchard of forty acres near Visalia, planted in 1892, cost at the end of three years $1868.84, less revenue from crops between trees, $381.20, or $1487.64 net cost, or about $35 per acre. This would make it cost two years hence, when in bearing, including cost of land, $100 per acre. For these reasons the mad scramble ceased some years ago, and very few new orchards have been planted since 1892, with the result that there are 6,000,000 growing prune trees to-day, as compared to 5,000,000 in 1892, or, to make it clearer, while nearly 4,000,000 trees were planted during the four years ending 1892, less than 1,000,000 have been planted since that time, which would indicate that the danger line is passed and a steady, conservative future assured. Another encouraging feature is the great falling off in importations of foreign prunes, which at that time were averaging 60,000,000 pounds per annum, having been 300,000,000 pounds for the six years ending December 31, 1891, while since that date for five years ending December, 1896, the importations have been about 62,000,000, or a little over 12,000,000 pounds per annum.

Prices and Quality.—The prediction that "thousands of acres are being planted in unsuitable locations, which in a few years will be producing millions of pounds of inferior fruit, which will bring down our good fruit to a price leaving but a very small margin of profit," has already been realized. In other words, the current price during 1892 was 9 cents, while of late 3 cents has been a good average price. Santa Clara valley is not responsible for these conditions, because her product, unadulterated with those of less favored regions, would still command good prices; but the large percentage of small prunes naturally resulting from allowing trees to overbear in a hot climate, and the careless, shiftless cultivation incident thereto, has brought about the dreaded result, and the word California in this connection now covers a multitude of sins. Already these inferior goods are being shipped to San Jose to be reshipped as Santa Clara products, and it is high time that this traffic be stopped.

Significance of the Prune Horse.—Some years ago the writer, while acting as a World's Fair Commissioner for Santa Clara county, originated a design to advertise her leading industry, known as the famous prune horse, it having been one of the features of the World's Fair. The Board of Trade of Santa Clara county has adopted the prune horse as their trade mark, to be placed on all shipments as a guaranty that they are as represented, products of the county, and will be the means of compelling other sections to sail under their own colors.

Prune Selling to Driers.—The advice not to dry but to sell green to the nearest drier has not been followed to any extent for two reasons: First, the natural disposition on the part of the average grower to follow the example of the Southern Pacific Company and get out of the business "all the traffic will bear;" and, second, because the driers, owing to reverse low prices and other causes, are fast becoming only a memory of better times. These conditions are unfortunate for the reason formerly given, that concentration of the product in as few hands as possible tends to steady and strengthen the market to the advantage of all concerned.

If we had strong firms at the various prune centers able to handle and pay for the crop as soon as it was ready to pick the grower would get a better price and be saved the time, risk and expense of doing his own curing and marketing, and if it were known that certain firms held a hundred or more carloads each, the occupation of the oily-tongued solicitor of consignments would be gone, and the business put on a paying basis. Foresecing the condition that the business was drifting into, the writer, in connection with a few other public-spirited growers, met in San Jose in 1892, and organized what is known as the "Santa Clara Fruit Exchange."

So long as each individual grower thinks he must do his own drying, the wisest course he can pursue is to bring his product to this or similar exchanges which have since been organized in other sections, get such cash advances as he may need and await his account sales. Some years they may be prompt, others slow, but always sure, and in the long run will average as well or better than individual effort.

How Lemons are Handled in Sicily.—While on the foreign lemons, let me read further from the report of the U. S. Consul: "The lemons were brought from the orchards to the warehouses in Catania in large baskets, holding about one and one-half bushels each. In the warehouses of the packers and shippers are a number of long wooden troughs, lined with burlaps and padded with cotton, sea grass, etc., to keep the fruit from being bruised as it is emptied from the baskets into the troughs. In these troughs the fruit remains from four to five days. At the end of this period any tainted fruit, or fruit likely to rot during shipment, will have developed symptoms thereof sufficiently to be observed by the expert women assorters. On the other hand, all the fruit that has stood this test period and appears sound and good at the end of the five days, is said to be able to stand long shipment and keep for quite a time. Lemons picked in November will keep four or five months in the boxes. Some of the leading shippers open the boxes again (of the fall crop) if kept on hand over fifteen days, and have them packed over in case there should be a few rotten ones. Besides this, no other method of curing lemons is practiced. After inspection, they are wrapped and packed. The lemons shipped to nearby points are not generally so carefully selected as those intended for the United States.

"The houses used for curing lemons are ordinary warehouses, which formerly might have served other purposes, as, in one instance, a building formerly used as a sulphur refinery. These are, like all buildings in this country, of stone, with tile roofing; generally without flooring and well ventilated. They are provided, as before stated, with a number of long padded troughs for receiving and picking over the fruit and with long, low tables for packing and nailing of the boxes. In some few cases, where the producers have a considerable crop of their own, they pack and ship it themselves; but in most cases the packers and shippers are purchasers only—not producers.

"*Lemon Picking in Sicily.*—The fruit is picked green from September to December, and turns yellow in the boxes, while in the months of January to April and May the fruit is yellow when picked from the trees—the latter, however, does not keep as well as that picked from September to December. That picked in November keeps best of all. The forced crop, "Verdelli," a greenish lemon, hard, sound and a good shipper, is picked green in June and July.

"Choice lemons for shipment in boxes are not generally picked until they have the proper size (3.1 to 3.5 oz.), unless the crop should be very short, when lemons weighing 2.7 oz. may be picked. The boxes contain of the full-sized fruit 300 to 420 lemons, according to the fruit sizes just given. All lemons intended for boxing and shipment, unless for very near points, must be carefully cut off the trees with a knife or shears; dropped fruit cannot be used. The receiving baskets must be lined and padded to prevent bruising, for, no matter how small the bruise, the fruit will spoil in shipment. It seems to be the general opinion among the fruit growers in the United States that some mode of curing lemons before packing and shipping is practiced. I have made every possible inquiry and have learned that such methods, except as stated herein, are entirely unknown here. The remark has been made that it would be impracticable to handle them in any other way which would demand more labor."

California Lemon Outlook.—Let us now consider

the outlook for profit in California lemon growing. According to the reports of County Assessors of five of the southern counties of California of the lemon trees bearing and non-bearing the figures are as follows:

Counties.	Bearing.	Non-bearing.	Total.
Riverside	32,810	100,962	133,772
San Bernardino	16,050	25,050	41,100
Orange	7,046	51,896	58,942
Los Angeles	50,185	237,530	287,715
San Diego	40,654	334,718	375,372
Ventura	9,266	88,322	97,588
Totals	156,011	838,478	994,489

The Porterville *Enterprise* reports Tulare county as having 1358½ acres in lemons. This at eighty trees to the acre gives 108,680 trees. Santa Barbara county is estimated at 1000 acres or 80,000 trees. Adding these to the total above and we have a grand total of 1,183,169 lemon trees now growing in California. A low average of three boxes per year gives 3,549,507 boxes as a product when all the trees are in bearing and large, thrifty trees will yield twice as much. This becomes significant when we consider that the whole lemon consumption of the country does not exceed 3,000,000 boxes per annum, and it is not reasonable to expect that we can wholly exclude foreign lemons. All of us know the misfortune to the producer or manufacturer when the supply exceeds the demand, there is either no profit or an actual loss.

I quoted in a former paper what Michael Angelo Pettindo said in an essay on the "Past, Present and Future of Sicily-grown Fruit" that the production of lemons in Sicily and particularly in the province of Palermo is now of such larger proportions as to exceed the consumption of the article in all the countries to which it is shipped" and California is capable of raising vastly more lemons than can be sold at any profit.

An Unacceptable Conclusion.—I know that this paper is not in accord with the general practice which is to enlarge upon the advisability of soil and climate for the best production of any fruit under consideration and the large profit to be realized. I have stated facts so far as I know and I believe these are what we want whether conducive to the profits of the nurserymen, land owners and railroads or not.

THE FIELD.

Notes on the Use of Fertilizers.

By JOHN MCTEAR, at the Carpenteria Farmers' Institute.

How to fertilize correctly and systematically is a question of great importance to the orchardist. Keen competition and small returns from orchard products make it imperative for the orchardist to study the strictest economy in the use of fertilizers, which generally are pretty expensive. This brings us face to face with the problem what fertilizers can we use that will give us the greatest return for the least amount expended.

Needs of Plants.—In the first place, we must find out what the various fruit crops we grow require. What elements do these crops take from the soil? Gray tells us that oxygen, hydrogen, nitrogen and carbon are absolutely necessary elements, to which must be added Dr. Kedzie's statement that no plant can grow in the absence of potassium and phosphorus. These are the principal elements that go to make up plant life, all of which (with the exception of carbon and small quantities of oxygen) the plants obtain from the soil. We must depend upon the reports of the College of Agriculture at Berkeley, which show the quantities of soil ingredients withdrawn by the various fruit crops per acre, as follows:

	Potash, pounds.	Phosphoric Acid, pounds.	Nitrogen, pounds.
Grapes	50.00	15.20	17.00
Oranges	42.28	10.60	36.60
Lemons	53.00	12.00	30.00
Pears	36.00	10.00	12.00
Plums	51.60	13.20	167.70
Prunes	79.70	15.95	44.40
Apples	16.00	6.00	12.00

These figures show the amounts of the three principal elements of plant food our crops are taking from the soil. Is there anything more reasonable than that we must return the same amounts to the soil if we would retain its normal fertility?

Barnyard Manure vs. Artificial Fertilizers.—There is considerable diversity of opinion as to the merits of barnyard vs. artificial manures, each claiming some advantage over the other in the way of cheapness and ease of handling. Barnyard manure will cost from $2.00 to $2.50 per ton laid down on your place, and in some cases more, where the haul is long. Then there is the curing of it and hauling it out on the orchard, which adds considerably to the first cost. A ton of barnyard manure will not fertilize over ten 7-year-old lemon trees, which, at the rate of 150 trees to the acre and $2.00 per ton for the manure, will occasion an outlay of $30 per acre. Now you can get a ton of "lemon fertilizer," as offered by dealers in commercial fertilizers for about $45, and the agent will tell you to use it at the rate of one pound for each year of the age of the tree. At that rate the ton of fertilizer will suffice for 285 7-year-old trees, and as 150 of these cover an acre, the cost for fertilizing an acre will be $30.

But that is not all. I find Winslow, in his "Principles of Agriculture," makes the statement that a ton of barnyard manure contains only twenty-five pounds of real plant food. According to these figures, we are returning to the soil 375 pounds of plant food per acre, which is nearly four times the amount the lemon takes from the soil. We must either be enriching our soils at a very rapid rate when we use barnyard manure in the usual way, or our California manure does not come up to such a high standard as it does in the Eastern States. Be that as it may, even if you cut the manure down one-half, I think the artificial fertilizer can be got as cheap, if not cheaper, when everything is taken into consideration.

Purchasing Separate Ingredients.—If you purchase a ton of the separate ingredients and use them in the following proportions—nitrate of soda, 11½ pounds; flour of bone, 4 pounds; muriate of potash, 4½ pounds—you will have a fertilizer that will, for lemon or orange orchards, be ample for five acres, as it will return to the soil in potash, phosphoric acid and nitrogen, all that the crop has withdrawn. At Eastern prices for 1895 you can buy that ton of fertilizer for $38.52.

Separate Application of Ingredients.—I do not favor the plan of mixing these ingredients for a single application. I think it is better to buy them separately and use them at different times in the season. Each one must make a careful study of this subject for himself, as different crops require different goods. It is a well established fact that all nitrogenous manures have a tendency to develop wood and foliage, giving to the trees a fine, healthy appearance. Phosphates, on the other hand, develop fruit buds. Dr. Kedzie cites a case in Michigan where a large pear orchard grew luxuriantly but bore no fruit. After a good dressing of phosphates that orchard bore enough fruit the following year to pay the entire cost of caring for it from planting. When trees look dwarfted and stunted you may be sure potash is wanting. [Not always. The dwarfing may be due to the absence of other elements of plant food or to conditions wholly apart from supplies of plant food. —EDITORS.] When trees are growing very rank and strong there is too much nitrogen, and when they are shy to fruit they are in want of phosphates. [Here, too, the question of plant food may not be involved at all.—EDITORS.]

Need of More Accurate Work.—The day is gone past when we can afford to fertilize our orchards in a haphazard fashion. We must use our brains and do our fertilizing in a scientific and systematic manner. This is an age of progression; let us progress. To stand still is to go backward.

THE SWINE YARD.

Swine Growing in Connection With the Dairy.

By C. H. SESSIONS, President Southern California Dairy Association at the Goleta Farmer's Institute.

In raising swine, as in raising any other stock, it is the intention of the owner to produce something that will pay him a profit for his feed, labor and risk. In the dairy where the skim milk is returned from the creamery or whey from the cheese factory the farmer keeps a few hogs to consume this milk. When properly fed in connection with beets, pumpkins, alfalfa pasture and the different grains, the hogs will run into money very fast if the quality of the stock is of the best strains.

The Razor-back.—We see too many of the razor-back breed and their decendants as we ride over the country. In the East more thought has been given the breeding, and the quality of the stock is far superior to most of that seen in our slaughter yards. A "hog is a hog," but a poor hog will not make a profitable feeder. Years ago it used to take from 18 months to two years to get a hog ready for the market. They were of the slow growing, late maturing kind, and the demand was for a large hog very fat. It took time to get these ready for the market and required extra feed to carry them that length of time.

The Modern Style of a Hog.—In late years the demand has been growing for leaner pork, smaller hams, less fat and lard, thinner bacon, well streaked with lean, and such quality is best found in hogs weighing about 200 pounds. The Cudahy Packing Co. pay the best prices for hogs ranging from 175 to 225 pounds, and pay less as they run larger or smaller. By referring to the Chicago market reports I find that the highest price each week is paid for weights ranging from 160 to 190 pounds, and in some cases as low as 130 pounds when in good condition.

Smaller Hogs Most Profitable.—It has been found that it costs more per pound to raise hogs over 200 pounds than under, so that the greatest profit is in selling at or under that weight. If these can be produced in 8 as well as in 12 months then we should try to raise such stock as would reach the required size at as early a date as possible. We have fed razor-backs by the side of thoroughbreds and found the razor-backs would squeal for more food after having consumed fifty per cent more than it took to keep the thoroughbreds fat. Why is it that so many farmers persist in raising these common, slow-growing, feed-consuming and profitless hogs? There is no difficulty in making well-bred hogs weigh 175 to 200 pounds in from 6 to 8 months, and in such cases the farmer realizes from his investment nearly twice a year.

How to Sell Hogs.—When the price of hogs is very low, as has been the case this fall, many farmers become discouraged and sell out everything they have, which floods the market with all grades of stock, making prices still lower, and they take just what is offered them. Instead of selling out entirely, he should cull his herd, keeping only the best sows, buy the best boar he can afford, and he will find that he can grow pork cheaper than ever before, and his stock returns him a better profit. He should aim to have hogs to sell when the market is bare of stock and prices high, as is the case at certain seasons of the year.

The Breeds.—There are many breeds of swine, but on this coast the most popular are the Berkshire and Poland China. A few Essex are raised in the northern part of the State, but I know of none in this section. A breed of hogs, known as the White Yorkshire, is raised in a small way, but, as they will not stand the hot suns of our section, they are not popular, but do very well as a pen pig. We have raised both the Berkshire and Poland China, but prefer the former. They are healthy and quick-growing, can be fattened at any time, require less feed to keep in condition, have a larger percentage of lean meat, are pleasant to handle, and are easily made pets. We have never had a cross animal in seven years breeding them.

How to Use the Thoroughbred.—While thoroughbred Berkshires will make more profitable return than common stock, I would not advise anyone to buy a herd of them for feeders, but get a pair or trio of them and save the choicest sow pigs for your own breeding. The young males can be sold to your neighbors for enough to buy a male of another strain, which can be used on your original sows as well as on the younger ones. In the meantime, while your thoroughbred herd is growing, improve your common herd. A thoroughbred male will make a great improvement on the first cross, even when bred to the much-laughed-at razor-back sows. The second cross on the most common of these show the characteristics of the thoroughbred.

We do not recommend breeding stock under eight months old, but from that time on sows will raise two litters a year with ease.

We hear considerable about the "bacon hog" which has been introduced into this country, but by careful selection of our breeding stock we can make the sides of our hogs deep and wide enough for any butcher.

Dairy Feeds for Swine.—Skim milk or whey should be fed with the proper proportions of nitrogenous and carbonaceous foods, as they will return a greater profit than when fed alone or without regard to this. The proper proportions should be about one to four for growing pigs and about one to six and five-tenths for fattening hogs, or, to speak more plainly, one part of protein, which produces muscle and bone, to four parts of carbohydrates, which produce fat and heat. Skim milk has a ratio of 1:2.16; buttermilk, 1:1.7, and whey, 1:6.8. The skim milk, having so much protein, should be fed with corn, wheat or barley.

If the only feed was skim milk the pig would do very well on it, but it would require a large feed of milk, and the excess of protein would be converted into carbohydrates, which would make it more expensive than when some carbonaceous food was fed.

If a feed having too much of the carbonaceous matter was fed to young pigs they would not get protein enough to build up muscle and bone and the animals would become very fat and break down. After an animal has obtained a good strong frame, then a more carbonaceous food can be given and the animal will put on fat.

Whey, being highly carbonaceous should have nitrogenous foods fed in connection—such as bran and alfalfa so as to furnish muscle and bone material which are only in small proportions in whey.

Methods at Lynwood.—Our brood sows have the run of a large lot with water for wallows and they dig out roots of many plants, weeds, etc., but have no regular pasture. We cut alfalfa often and feed during the summer. We also give them green corn, beets and stock melons or citrons, during their season. At times we have quantities of skim milk into which we put bran, rolled barley or shorts but when milk is scarce we furnish enough water to make a slop. We feed our skim milk sour and think it better than when sweet as we have known hogs to bloat and die on sweet milk. The Vermont Experiment Station and the Ontario station both report the best results from sour skim milk.

THE HOME CIRCLE.

Them Old Cheery Words.

Pap he allus used to say,
"Chris'mus comes but onc't a year!"
Liked to hear him that-away,
In his old split-bottomed cheer
By the fireplace here at night—
Wood all in, and room all bright,
Warm and snug, and folks all here:
"Chris'mus comes but onc't a year!"

Me and Lize, and Warren and Jess
And Eldory home fer two
Weeks' vacation; and, I guess,
Old folks tickled through and through,
Same as we wus—"Home onc't more
Fer another Chris'mus—shore!"
Pap 'u'd say, and tilt his cheer,
"Chris'mus comes but onc't a year!"

Mostly pap was ap' to be
Ser'ous in his "daily walk,"
As he called it; giner'ly
Was on hand to joke er talk.
Fac's is, pap had never he'n
Rugged-like at all—and then
Three years in the army had
Hepped to break him purty bad.

Never flinched, but frost and snow
Hurt his wound in winter. But
You bet mother knowed it, though:
Watched his feet, and made him putt
On his flannen; and his kuee,
Where it never healed up, he
Claimed was well, now—mighty near—
"Chris'mus comes but onc't a year!"

"Chris'mus comes but onc't a year!"
Pap 'u'd say, and snap his eyes.
Row o' apples sputter'n here
Round the hearth, and me and Lize
Crackin' hicker'-nuts; and Warr'n
And Eldory parchin' corn;
And whole raft o' young folks here.
"Chris'mus comes but onc't a year!"

Mother tuk most comfert in
Jest a-heppin' pap. She'd fill
His pipe fer him, er his tin
O' hard cider; er sit still
And read fer him out the pile
O' newspapers putt on file
Whilse he was with Sherman. (She
Knowed the whole war history)!

Sometimes he'd git het up some.
"Boys," he'd say, "and you girls, too,
Chris'mus is about to come;
So, you've a right to do,
Celebrate it! Lots has died,
Same as Him they crucified,
That you might be happy here;
Chris'mus comes but onc't a year!"

* * * * * * * *

Missed his voice last Chris'mus—missed
Them old cheery words, you know.
Mother helt up tel she'd kissed
All of us—then had to go
And break down! And I laughs: "Here!
Chris'mus comes but onc't a year!"
"Them's his very words," sobbed she,
"When he asked to marry me."

"Chris'mus comes but onc't a year!"
"Chris'mus comes but onc't a year!"
Over, over, still I hear,
"Chris'mus comes but onc't a year!"
Yit, like him, I'm goin' to smile
And keep cheerful all the while;
Allus Chris'mus there—and here
"Chris'mus comes but onc't a year!"

—James Whitcomb Riley.

Two Christmas Gifts.

By George Grant.

A flood of dazzling winter sunshine, reflected from the snow-covered street, poured into Mrs. Trevor's nursery, a large, cheerful room, filled with evidences of childish occupation.

The golden beams mingled with the sunny curls on top of a little head bent closely over some absorbing employment. Seven-year-old Madge, blue-eyed and rosy-checked, was so deeply engrossed that she did not hear the nursery-door pushed softly open. Hearing her name spoken, she looked up with a start. In the doorway, smiling pleasantly on her, stood Aunt Clara, furred and cloaked for a winter walk.

"What are you doing, Puss?" inquired the newcomer, giving her niece an ecstatic hug and settling herself comfortably on an ottoman.

"Take off your things, Auntie," said Madge, laying her work down and regarding her pretty relative with unqualified pleasure. Then she added, as she resumed her sewing: "It's a great secret, but I'll tell you all about it, if you'll promise not to breathe a word."

Aunt Clara's face instantly grew grave, all but the laughing eyes.

"You may confide in me," she said, solemnly.

Madge raised her eyes from the piece of bright flannel suspended on her needle.

"Can't you guess what it is?" Then, seeing the blank look on her aunt's face, she added: "It's a pewiper, of course."

"What for?" was the next question.

"For a Christmas present, to be sure. It's only a week off."

As she spoke, Madge's face expressed surprise at the query.

"And who is the fortunate recipient of your gift?"

For a moment the child looked puzzled; then she said, gravely: "I suppose you mean 'Who is it for?' Well, it is for—Tom Lawrence."

"Tom Lawrence?" echoed Miss Clara. Then she continued, quizzically: "You are beginning soon—to be sending presents to young men already."

"Tom Lawrence isn't a young man," was the indignant rejoinder. "He's nothing but a boy—only fourteen," and Madge stooped to pick up the tiny thimble which had dropped from the chubby fingers in her excitement. "I'll tell you all about it, if you'll be serious," as she caught the gleam of mischief in her aunt's eyes.

"Brother Fred and Tom, you know," continued the small maid, gravely, while her listener bent forward with an air of deep interest, "have been awfully kind to Bell Morgan and me, this winter, taking us sled-rides. Of course, I should give Fred a Christmas-present, at any rate; but we both thought it would be nice to give Tom something—he has no sisters, poor boy."

Aunt Clara was silently convulsed at the pitying tone of voice, but she only said, quietly: "You were quite right, my dear. It is a very good idea. When are you going to present it?" stooping down to hide an irrepressible smile.

"Oh! he will be sure to be over Christmas morning, to see Fred's things," was the prompt answer. "I shall give it to him then. Don't you think he will be pleased, Aunt Clara?"

"Certainly he will, and you have made it very neatly." The young lady rose, as she spoke. "Now I must go and see mamma."

"Please don't tell anyone—especially Fred—he is such a tease," was the child's parting injunction.

"I promise eternal secrecy," was the reply; and, with finger on her lip, Miss Clara vanished, leaving Madge to continue her occupation.

Christmas morning dawned, clear and cold, and found the Trevor children in a state of high delight. Madge wore an air of extraordinary importance. In the course of the day, Tom appeared, according to expectation. In the temporary absence of Fred, she hastened to him, and, slipping into his hand her little gift, murmured timidly: "You've been very kind to me, Tom, and—I made you this."

Tom looked down at Madge, surprise mingled with the air of magnificent condescension which boys are apt to display toward little girls.

"Thank you," he said, putting the fateful penwiper in his pocket. "It was very kind of you to think of it."

If Madge was disappointed at his lack of enthusiasm, no one knew it, not even Aunt Clara.

The following autumn, Tom went to college, and, soon after, the Lawrence family moved to another city, so the childish intimacy was broken up completely.

Thirteen years can make great changes in people's lives; they certainly did in the existence of those two children, Tom and Madge. After four years at college, young Lawrence entered the army, and, at the close of the Civil War came out "Captain Lawrence," wounded, and covered with glory.

"Little Madge" was now Miss Margaret Trevor. No one ever called her by her childish name, and she almost forgot that it had once belonged to her. Time had changed the golden hair into a chestnut-brown, and the blue eyes were so dark as to be almost black. The pretty sunny-haired child had developed into a lovely woman—the loss of her father and reverses of fortune making her thoughtful beyond her years.

After his return from the army, Fred married and settled in his native city. Receiving, through an uncle, her father's brother, who lived in a large Western town, the offer of a good position as teacher, Margaret and her mother went there to live.

For two years, they were very happy in a cozy little house, not far from Mr. Trevor's elegant mansion. Margaret's uncle was a wealthy widower, with only one child, a daughter, about eighteen. Curiously enough, this new cousin, was another Madge Trevor, with hair as golden and eyes as blue as Margaret's had been at seven. She had always kept the pet name. Somehow, it would have seemed unnatural to think of her as anything but "Madge."

Mrs. Trevor often laughed and said to her niece: "My dear, you are the image of Margaret when she was only seven. One might easily think you were she—you have grown up exactly as she promised to. When I look at you, I can almost see my little girl again. Margaret has changed so."

The two girls became very intimate. Margaret petted her pretty namesake, who seemed like her childish self come back, and, in turn, was worshiped by her. Madge would have dragged her cousin, had she not resisted, into all the gayety of the place. Sometimes, however, Margaret yielded, rather against her will; and then she was always the object of much admiration.

One bright day, early in October, Madge ran over to see her cousin. Margaret had just come in from school, and, feeling rather tried, was leaning comfortably back in an easy-chair. She smiled a welcome to her merry visitor, as she took a stool at her feet.

"Horrid old school! I wish you were as idle as I!" she cried, sympathizingly.

But Margaret, half laughingly, shook her head.

After a great deal of lively chatter, to which Margaret listened in amused attention, she broached the real subject of her visit.

"We are invited to the Tauntons', this evening, she began. "Mrs. Taunton particularly asked me to bring you. In fact, she told me I needn't come without you—and I certainly shan't. There won't be many there—only a few people, all of whom you know and like."

Madge slipped her hand insinuatingly into her cousin's, as she spoke, seeing refusal written on her face. "You know your mother said you ought to go out more, on account of your health. I intend to make you, this winter—else I'll stay at home too."

"Little special pleader," laughed Margaret, patting the plump fingers clasped in her more slender hand.

"Besides," Madge went on, eagerly, "their wonderful cousin from the East is to honor the occasion."

"What cousin?"

"Oh, the one that fought and bled and died for his country."

"You mean his ghost, don't you?" interrupted Margaret, laughingly.

"No. A ghostly young man would not be interesting. He was only nearly killed—some wonderful escape."

"You offer me great inducement," began Miss Trevor; "but I think—"

"You don't think anything about it," rising as she spoke; "you are simply going. I won't listen to any refusal. You must meet this remarkable Tom Lawrence," she added.

"Tom Lawrence?" Margaret's face expressed astonishment.

"Yes. That's the cousin."

"O-o-h!" And Margaret settled back into her easy-chair.

"What's the matter, dear?" queried Madge, struck by the change in her cousin's face; and she seated herself again.

"Nothing, little Miss Curiosity—only I knew a Tom Lawrence ever so long ago, when I was a small girl. He wasn't much of a hero then, so it's probably not the same."

"Very likely it is. Won't that be fun? Tell me all about him." Madge's questioning face expressed great interest.

Margaret laughed, as she pinched her cousin's rosy cheek.

"He went away to college when I was seven or eight, and I never saw him again. So we couldn't remember each other very well."

"But you will go?" Madge spoke in her most coaxing tone. "You will go now?" she repeated.

"Why now?" was the laughing rejoinder.

"Because I am sure it is your Tom Lawrence."

"And I feel positive it isn't. However, that doesn't matter, dear. Since you plead so hard and wish me to go so much, I will consent. Now are you happy?"

After many protestations of delight, Madge took her departure.

Quite a number of gay young people gathered in Mrs. Taunton's handsome parlors. Among them, eclipsed in beauty by none, were the two cousins—Madge full of curiosity, at which the other was inclined to smile.

Everybody looked at the hero of the evening, as the general introduction was gone through. It was a group of bewilderingly pretty faces; but amongst them all, the one that arrested Lawrence's attention was a lovely oval, naturally rather pale, but just a little flushed, large blue-gray eyes, and coils of soft chestnut hair framing the delicate face and enhancing its loveliness. But he did not recognize "little Madge."

As for Margaret, she saw a tall fine-looking soldierly man, but with the same frank brown eyes and close-cropped auburn hair as the boy Tom Lawrence. She felt sure it must be he.

After some general conversation, someone turned to Captain Lawrence and said: "Do tell us about your experience in the war. You were all through it—were you not?"

He admitted that such was the case, and, everybody urging the request, after a little hesitation he complied with it. Modestly but in a very entertaining way, Tom told some stories of camp and battle, to which everyone listened delightedly. The evening was slipping rapidly by, when Mrs. Taunton interrupted him.

"Tell us how you came to escape death, in such a strange way," she said. "Your mother wrote me something about it."

The animated attention of his audience induced him to continue, particularly the intently interested gaze of a pair of dark eyes.

"Well," he began, "it was at the battle of Fair Oaks, in the very fiercest of that bloody fight. We were in close quarters, and were trying to do each other all the damage we could. Amidst the uncertain and confused firing going on around me, someone took unerring aim at me."

Margaret gave a little shudder, and Madge nestled up closer to her.

"It was a perilously certain aim," went on Tom, his voice grown a trifle husky. "Never as long as I live, shall I forget the instant that elapsed between the flash and the bullet-shock I never faced death quite so close. The ball struck me right in the heart; or, rather, it would have, had not something hard in my breast-pocket, just over my heart, made it rebound."

"And what was it?" cried a dozen listeners, as Tom stopped for a moment. Margaret leaned eagerly forward with the rest, a look of almost painful anxiety in the beautiful eyes.

Tom put his hand in his pocket, and slowly drew out—while every gaze was turned questioningly on him—a flannel rosette, its once gay colors faded, fastened together in the middle by a large metal button. Margaret recognized it at a glance—the penwiper she had given him thirteen years ago!

The preservative of Captain Lawrence's life was solemnly passed about for inspection. The company viewed it with feelings of curiosity mingled almost with awe. It seemed very nearly miraculous. For a moment, no one spoke.

Margaret took her gift of long ago, and looked at it with mingled feelings. How strangely Providence had decreed that her childish token should save a life. Unknowingly, she had been of greater use to her old playmate than she had dreamed she could be to any human being. How strange it all seemed. She handed the penwiper back to Tom, and he restored it carefully to its former resting-place.

"This was given to me," he continued, while one, at least, of his auditors listened closely, "thirteen years ago by a little girl, sister of one of my schoolmates, when I was a boy at home. I used to take her riding on my sled, and I suppose she wished to show her appreciation of my kindness. She little knew what a service she rendered me."

Margaret drew a long breath.

"What is it?" whispered her cousin.

"Nothing, dear. Listen."

Tom was saying: "When I went to college, the next autumn, I took the penwiper with me in my writing-desk, and very useful I found it. How it came to be packed up with the few things I carried with me when I joined the army, I can't imagine; but, strangely enough, it was. Just before the battle of Fair Oaks, I was writing a letter home. I remember thrusting it into my breast-pocket, and smiling to think how that little penwiper had accompanied me in all my travels. I believe I had a sort of superstition about it, even then. Of course, as you may suppose, the feeling is very much stronger now. I would not part with my talisman for worlds. I am sure all my luck would go with it."

Everybody smiled, but Tom looked quite serious.

"But you haven't told us about the little girl yet," cried Madge Trevor. "What is her name, and what became of her? Of course you will marry her, as a reward for saving your life?"

There was a gleam of mischief in the merry blue eyes.

Captain Lawrence smiled.

"She is probably married to some one else by this time," he said. "We moved away from Boston while I was at college, and I lost sight of her altogether." As he spoke, the flush deepened a little on his bronzed face.

"But," persisted Madge, mischievously, unmindful of Miss Trevor's admonitory touch, "you haven't told us her name."

Tom started, suddenly struck by the resemblance of his pretty questioner to his recollection of little Madge.

"If you tell us her name, perhaps we can help you find her," this other Madge was saying. "She may be poor and friendless, and in need of your assistance."

"If Captain Lawrence has such serious intention, he probably does not care to tell her name," said Margaret, in her clear voice.

Tom looked from one to the other. Did he wish, could his childhood's friend appear, that she should take the semblance of the last speaker? At any rate, the first was more like his memory of her.

He laughed, saying: You have teased me so much about it, that I shall not gratify your curiosity," and the subject was dropped.

The remainder of the evening passed pleasantly enough, and soon the guests rose to go. As they were making their laughing adieus, someone spoke Madge Trevor's name. Tom, who was standing near, watching Miss Trevor, turned in astonishment—those blue eyes and golden curls could belong to but one Madge Trevor.

"Great heaven!" he exclaimed, so low that only the two cousins heard him. "Can that be my Madge Trevor?"

As the party walked home in the moonlight together, chatterbox Madge was unusually silent. Everybody, with the exception of the two girls, discussed Captain Lawrence and his adventures. They said nothing.

When they parted from Margaret, at her own door, Madge whispered in her ear, while she shook her finger in mock solemnity: "I've guessed it all now. Isn't it queer?"

Once in her own parlor, Margaret drew her mother down beside her on the sofa, and told her the strange story.

"But," she added, when Mrs. Trevor's astonishment had subsided a little, "he mistook Madge for me, and you must not undeceive him. Let him continue to think so as long as possible." And, with this understanding, Margaret went to bed, too excited to sleep.

On her return from school, the next day, she found her mischievous namesake curled up in an easychair by the fire. As she entered, Madge sprang forward in great glee.

"Let me sit down; I am tired to death," was the greeting the visitor received, and Margaret sank contentedly into the vacated seat. Her cousin took her usual place at her feet.

"I see it all now," she went on, eagerly, gazing up into Margaret's face with high delight. "It is just like a romance. You said you knew a Tom Lawrence once, and you lived in Boston when you were a little girl, and you gave him that wonderful penwiper, and—" Here she stopped, for lack of breath.

Margaret put her fingers in her ears, in pretended horror; but her inquisitor would not let her off.

"Come—tell me; am I not right?"

"I suppose I may as well submit," said the persecuted one, smiling. Since you have guessed it—yes, you are right."

The mischievous blue eyes of her listener danced.

"The best of it is, he thought I was you."

"Yes, and you must contrive to let him still think so," was the unexpected reply.

Madge looked up in amazement.

"It was a very natural mistake," the other continued. "You look so like me—or, rather, so like me when I was a child. I wouldn't undeceive him for the world."

"Why not?" asked Madge.

"Oh, because," was the reply. "Don't you think it will be rather a joke? You always enjoy a hoax so much, here is a splendid opportunity for one. Promise me, now, to keep it up. It will be such fun for you, dear."

Madge laughed.

"But how can I do it?" she asked. "I don't think it will be possible."

"Nonsense—with your cleverness! Why, it will be the easiest thing in the world. Just evade direct questions—which, being a woman, you can surely do. The rest will be easy

enough. He is so sure of your identity now, that it will not be difficult to confirm his impression." And Margaret stooped, as she spoke, to pick a thread off the carpet.

With all her gentleness, when really determined, Miss Trevor had the stronger will: so, at last, her cousin yielded.

"He can't know very much about me," laughed Margaret; "we have not met since I was seven years old."

Having once promised, mischievous Madge entered thoroughly into the spirit of the jest.

"Will he not recognize your mother?" she asked.

"Mamma has changed almost as much as I, since her hair is gray. So I think we are safe," was the prompt reply.

Having sealed, signed, and delivered the compact, the two companions parted.

Meanwhile, Tom Lawrence sat in the solitude of his own room, thinking. In his hand, he held his fortunate Christmas gift. As he looked at it thoughtfully, he wondered whether the face he had so lately seen was indeed that of the child he had known long ago. He felt sure it must be; and yet, another face rose before him, not so bright, perhaps, but with a womanly thoughtfulness in it that might have made it seem fairer to many.

Strange, if fate had brought them together again. It would certainly be the fulfillment of his dreams; for the one grain of romance in his practical nature had been the hope of some day meeting sunny-haired Madge and winning her for his wife. Perhaps that was what fate meant.

The next two months fled swiftly and pleasantly. Nearly every night, some gayety was afoot, of which Madge was the life and soul. She kept her word about insisting on Margaret's accompanying her everywhere; and, indeed, she had a less difficult task than she had expected. After a little resistance, Margaret yielded gracefully and soon became as great a favorite as her livelier but more thoughtless namesake. As a matter of course, wherever they went, they met Captain Lawrence, who was still staying with Mrs. Taunton. He was quite devoted to Madge; but, as the two cousins were almost inseparable, he saw nearly as much of one as of the other. He and Madge were on such good terms, that some persons said she encouraged him, while Margaret always treated him with a certain reticence. Mr. Trevor's close resemblance to his brother, and the fact that his family had also lived several years in Boston, made it easy for Madge to maintain her assumed character. She tried to confirm decidedly, though indirectly, Tom's first impression; and, if he was a little disappointed, he hardly knew it himself. Did there ever, athwart his dreams of the golden hair and bright eyes he saw so often, dart the vision of another face quite as familiar? Who shall say?

December had come, and was speeding fast away. It was a regular old-fashioned December, bringing plenty of snow and ice, with all sorts of winter sports in their train.

On her return,, one day, from a sleigh-ride she had taken with Captain Lawrence, Madge "dropped in," as was her custom, to see her cousin.

"If it weren't for that horrid old school you might have gone too," she pouted.

Margaret frowned slightly, but made no reply.

After expatiating on the pleasure of the drive, she exclaimed gayly, with a smile that showed her pearly teeth:

"It is all very well till he begins to ask me questions about Fred—then he poses me. Please ask your brother to send me his autobiography, else I shall betray myself most ignominiously."

"What a goose you are!" laughed Margaret. "I wish you knew Fred." And there the conversation ended.

One stormy night, rather more than a week before Christmas, Margaret sat alone in the cosy little room back of the parlor, some embroidery in her hands. For a wonder, there was no festivity in progress, and, Madge being away from home for a day or two, she was left to her own devices. Her mother had gone to bed early, with a headache, and she was anticipating a quiet evening—something she had not enjoyed for a long time. There was nobody to disturb her, and she was glad to have a little leisure to think.

Outside, the heavy snow was falling faster and faster, drifting on pavement and step. A keen north wind whistled down the chimneys and round the corners of the houses.

Inside, all was warm and bright. The snug little room in which Margaret sat served the purpose of a library, though hardly to be dignified by that name. Bookcases and pictures covered the walls, plants filled the windows, and several easychairs stood invitingly around. Margaret, in a bright winter dress, sat close to the little center-table, on which stood a brass lamp. Through its rosy shade, the light fell in a softened glow over the fair face and white hands. The embroidery lay idle in her lap, for she had fallen into a deep reverie.

A loud ring at the bell roused her.

"Dear me!" was her annoyed exclamation. "I thought I should be free from callers, to-night."

Just then the small maid announced: "Captain Lawrence," and, immediately after, that gentleman appeared.

Certainly, the scene before him presented a charming contrast to the storm outside. No wonder the intruder lingered a moment to gaze at it.

Margaret stepped forward. A subtle change, first of pleasure, then of something different, passed over her face, deepening slightly the flush in her cheeks.

"Good-evening, Captain Lawrence. Did you snow down? I feared the storm would keep everybody in doors to-night."

"Oh, an old campaigner doesn't mind the weather, you know," was the laughing reply.

"I will light the lamp in the parlor," said Margaret.

"Mayn't I come in here? Don't let me interrupt your work, and I shall be still better pleased."

As he spoke, he took possession of an easy-chair on the other side of the table, opposite Margaret, thus gaining an excellent view of the fair face.

She resumed her embroidery, and the two chatted pleasantly for some time. In the course of the conversation, Madge's name was mentioned, and Miss Trevor remarked that she was out of town.

"Yes; so her father told me. I met him to-day," replied Tom.

There was just the slightest compression of the red lips. So this was why she was indebted to him for the pleasure of his society!

A dainty workbasket stood on the table by the lamp. Tom began, man-fashion, idly to finger its contents; a little worn leather needle-case, the only shabby article in it, attracted his attention. He picked it up and opened it; it was filled with leaves of flannel that had once been bright.

"This has seen wear," he said, smiling and holding it up.

Margaret, intent on her embroidery at that moment, just glanced at the case.

"Yes," she answered, carelessly, "it has. I've had it ever since I was a little girl."

"Did your cousin give it to you?" As Tom spoke, he was struck by the familiar look of the faded leaves.

"Oh, no," said Margaret, her eyes still on the mistake in her work. "I found the material in mamma's scrap-bag, and made it myself."

As she finished, it flashed across her what else she had made from the same bits of flannel.

Tom leaned forward; Margaret's face was in full view, and he could see the sudden change that passed over it.

"Tell me," he said, almost excitedly; "how did your cousin get those same pieces to make my penwiper?"

Margaret was silent.

Several things in the past two months came back to him.

"Did you give them to her, Miss Trevor?" he persisted.

Between anger at herself and something more, she could not speak.

"Now I am sure," he cried; "your name is Margaret too. It was Madge once. You saved my life. Can't you guess why I care? Margaret, I love you."

Margaret rose, her slight figure drawn to its full height.

"Thank you, Captain Lawrence, for the honor you do me—but you have made a mistake; it is Madge you are thinking of. You are not bound to marry me because, inadvertently, I saved your life." She spoke slowly and calmly.

"But I thought she was you—I mean, it is you I love," he cried desperately.

"You are getting hopelessly confused, Captain Lawrence; it is useless to continue the conversation. I have no desire to supplant Madge in your regard. You have been devoted to her for the last two months. To-morrow night, she will be home."

Tom rose also.

"But," he began, "let me explain—"

"It is unnecessary, and would be of no use. Pardon me—but I must ask you to excuse me." And, with the grace of a queen, Margaret slowly withdrew.

The following week, everybody was busy preparing for Christmas, so there was nothing going on. In this way, Margaret managed to avoid meeting Captain Lawrence, and, Madge being very much occupied, she saw less of that small personage than usual.

The day before Christmas, Madge brought her work over and settled herself in her usual seat.

"I have come to spend the afternoon and have a long talk," she announced. "I have hardly seen you lately. Do you know you are looking pale?"

Margaret glanced up from her knitting—she could not bear the sight of her embroidery.

"I have a headache—that's all," she said.

"Poor dear, you need petting; but you must wait till you hear my news. Captain Lawrence leaves for home, the day after Christmas. Isn't it unexpected?" As she spoke, she looked innocently up into her cousin's face.

"Rather, I should think; but you probably know best." In spite of herself, Margaret looked a little startled.

"I? What have I to do with Captain Lawrence's going. He isn't in love with me." Madge rose as she spoke, and faced her cousin with a very determined expression of countenance.

Margaret looked up in astonishment.

"It is you who are responsible for his going away," continued the small mentor, sternly.

"You and he have been quarreling, and it's about me. Don't deny it. He spent an evening with you last week. I know all about it. He has been trying very hard to fancy himself in love with me, but I've seen through it. He talked to me, but he looked at you. He doesn't want me any more than I want him. You saved his life; now take it. Send for him right away and make up, like good children. I shan't speak to you till you do, remember!" And, with this parting injunction, impetuous Madge brought her "afternoon" to an abrupt close.

Left to herself, Margaret felt wretched enough. She realized her own folly, yet what could she do? Was it likely that Tom would ever come back to her? And she—how could she send for him?

The short winter afternoon drew to a close, and Margaret was still sitting by her sewing table, the picture of despair. Suddenly she noticed the little needle case lying open, and a light broke over her face. Seizing her scissors she ruthlessly severed the leaves. Into the thimble, scarcely larger than the one she had worn thirteen years ago, she slipped her slender finger, and, taking needle and thread, fashioned a rosette. In the middle she fastened a large metal button, evolved from the depth of the family button bag. With trembling fingers she made a neat package of it and addressed it to "Captain Lawrence." Then she ran out and posted it.

Another Christmas morning dawned, clear and cold, bringing its usual heavy mail to nearly every one. The Taunton family was no exception. Besides several letters, a small package fell to Tom's share. He looked at it, and thinking he recognized the handwriting, hurried up to his room to open it. Can you guess what he did then?

Two hours later, when Madge ran over to see whether her aunt and cousin were coming to dinner, she found, to her delight, Tom and Margaret together.

"My second Christmas gift was better than my first," he had just been saying. "The first gave me life—the second gave me you."

Curious Facts.

Bread as a daily article of food is used by only about one-third of the 1,500,000,000 people that constitute the present population of the earth.

They have sometimes a curious way of deciding lawsuits in North Siam. Both parties are put under cold water and the one staying under the longer wins the suit.

Threads of shredded steel are used in Germany as a substitute for sandpaper. It is said to work more quickly and uniformly than sandpaper, and does not clog.

A mathematician has computed the movements of a rider's feet while working a bicycle, and has demonstrated that it requires less exercise to travel fifteen miles on a bicycle than to walk three miles.

It is not an unknown occurrence for a strong wind of great velocity to carry the brine of the ocean overland for a distance of fifty or sixty miles. Wilsden is situated 700 feet above sea level and is about 55 miles from the Lancashire coast, from which direction a recent hurricane blew; yet those who tasted of the deposits on their windows could easily detect the salt of the ocean therein.

Popular Science.

One inch of rain falling upon one square mile is equivalent to about 17,500,000 gallons of water.

The oyster grows from the inside by throwing out every year rings or circles of a calcareous substance, and experts can tell where the growth begins and ends for the year.

The greyhound seems to have been developed in level, treeless and shrubless countries, where a moving object is visible at a long distance, and great speed is therefore necessary to enable a predaceous animal to overtake its prey.

The eyeball rests in a cushion of fat, by which it is surrounded on every side. When the system becomes greatly emaciated through disease, this fat is absorbed and the eye sinks further into the head, thus giving the sunken appearance so common in disease.

Lord Kelvin holds that the internal heat of the earth has nothing to do with the climates. The earth, he says, might be of the temperature of white-hot iron 2000 feet below the surface, or at the freezing point 50 feet below, without at all affecting a climate.

Gems of Thought.

The character of a man is determined more by his occupations than by his opinions.—Lecky.

There is a great difference between one who can feel ashamed before his own soul and one who is only ashamed before his fellow-men.—Talmud.

There is a burden of care in getting riches; fear in keeping them; temptation in using them; guilt in abusing them; sorrow in losing them, and a burden of account at last to be given up concerning them.—Matthew Henry.

He is not rich that hath much, but he that hath enough; nor he indigent that hath little, but he that craves more. For we are not rich or poor, happy or unhappy, honorable or mean, so much according to the proportion of that which we possess as of that which we desire.—Penn.

DOMESTIC ECONOMY.

Domestic Hints.

MEAT PUFFS.—Boil out any trimmings of pastry, left over from a pie or tart, as thin as possible. Mince very fine three tablespoonfuls of cold meat, season with pepper and salt, add a little bit of butter, a few drops of ketchup, and a pinch of sweet herbs. Cut the paste in rounds, wet the edges of half, put the meat on it, fold the other over, press and pinch the edges together. Flour the puffs and fry a nice brown in boiling fat.

MUTTON BROTH.—Take a pound and a half of scrag of mutton, chop it into small pieces, and put it into a stewpan with rather more than a quart of water; set it to boil, skim it well; add a little salt, and two ounces of washed pearl barley; boil gently for an hour; strain off the broth through a sieve into a basin and serve a teacupful with dry toast cut in small strips. A turnip and half a head of celery may be added to give flavor where vegetables are not objectionable.

VEAL CROQUETTE.—Cold veal at once suggests the most delightful number of made-over dishes. Veal croquettes are always excellent if properly prepared. A simple mince of veal, warmed up in brown gravy, seasoned highly with salt and pepper and served on toast, is always acceptable at breakfast. It is appropriately varied by mincing six mushrooms to a pint of minced veal, and adding them to the brown gravy before adding the veal. The moment the minced veal is heated through it is ready to serve.

THE flags to be hoisted at one time in signalling at sea never exceed four. It is an interesting arithmetical fact that, with eighteen various colored flags, and never more than four at a time, no fewer than 78,642 signals can be given.

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Nature as an Engineer.

How suggestive the vegetable kingdom is of engineering problems was pointed out in a very interesting manner some time ago by Sir Benjamin Baker in a presidential address to the British Institution of Civil Engineers. "Every tree," he remarked, "is a vegetable pumping engine, but hydraulic engineers would be sorely puzzled to explain how the large quantity of water required to supply the evaporation from the extended leaf service is raised heights up to 400 feet and above. We know that the source of energy must be the sun's rays, and we know further that, in the production of starch, the leaf stores up less than 1 per cent of the available energy, so that plenty remains for raising water. Experiments have shown that transpiration at the leaf establishes a draught upon the sap, and there is reason to believe that this pull is transmitted to the root by tensile stress. The idea of a rope of water sustaining a pull of perhaps 150 pounds per square inch may be repugnant to many engineers, but the tensile strength and extensibility of water and other fluids have been proved experimentally by Professor Osborne Reynolds, and by Professor Worthington and others. A liquid, deprived of air, entirely filling a glass vessel, when cooled, pulls on the vessel, and at last lets go with a violent click. Water has been so stretched nearly 1 per cent of its bulk, and the adhesion of the water to the sides of the vessel and the amount of the tensile strength were found to be quite equal to that of good mortar. With ethyl alcohol the modulus of elasticity, both in tension and compression, was constant up to the ultimate tensile resistance realized of 255 pounds per square inch. Many hydraulic engineers have, no doubt, lived and died without encountering anything in their experience suggesting that water and other fluids were capable of resisting a tensile stress of no insignificant amount; and yet, as long ago as 1663, the fact was known, for the secretary of the Royal Society then wrote to the Governor of Connecticut that 'what puzzleth and perplexith us is that water defecated from the air remains suspended and doth not at all subside after the receiver hath been exhausted of air;' and, in the same year, the president was asked 'to entertain his Majesty' Charles II. with the sight of quicksilver sustaining itself by tension at a height of 50 inches when the barometer was at 29 inches, 'something else but equipondency of air being,' it was truly said, 'necessary to explain this odd phenomenon.'"

A CORRESPONDENT of London *Engineering*, to show that the metre is not a measure for the standard, says: "The metre was originally fixed without reference to practical considerations of convenience and utility, but simply as a theoretical fancy, to adopt the 100,000th part of a degree of latitude as the standard measure, with the idea of basing the measure on the earth itself, irrespective of any minor consideration of utility. Unfortunately this was subsequently upset by more correct measurements of the earth, showing that the metre was not really the 100,000th part as intended; and it has now consequently to be referred to an authorized standard metallic measure, like other standard measures."

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THE largest canals are those of Russia, the system connecting St. Petersburg with the Caspian sea furnishing continuous navigation for 1434 miles. Then comes the Erie canal, from Albany to Buffalo, 381 miles; the Ohio canal, from Cleveland to Portsmouth, 317 miles; the Gotha canal from Stockholm to Gothenburg (Sweden), 280 miles; the Miami & Erie, from Cincinnati to Toledo, 274 miles; the Pennsylvania canal, 193 miles; that from Soonkelassa to Cuddapar, in India, 190 miles; the Chesapeake & Ohio, from Cumberland, Md., to Washington, 184 miles; that from Dublin to Ballinasloe, Ireland, 164 miles; the Delaware & Hudson, from Rondout, N. Y., to Honesdale, Pa., 111 miles; that from the Danube to the Main, 108 miles.

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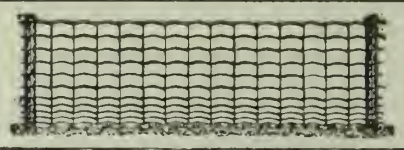

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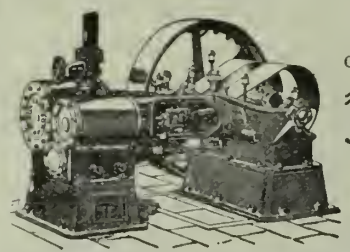
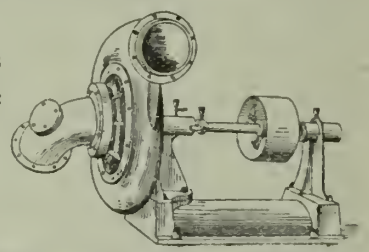
Manilla Roofing, 250 square feet complete, with Paint and Nails, $4.00.
ASK YOUR DEALER, OR ADDRESS
PARAFFINE PAINT CO., Manufacturers, 116 Battery Street, San Francisco. 524 South Broadway, Los Angeles.



WRITE FOR CATALOGUE NO. 15.
Jackson's GAS —AND— OIL ENGINES.



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For Irrigation, Drainage, Dredging, Mining, Etc. Capacities from 50 to 50,000 Gallons Per Minute.
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Steel Beam Gang
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PLOWS.
THE STOCKTON REVERSIBLE GANG PLOW.
H. C. SHAW PLOW WORKS, State Agents,
STOCKTON, CALIFORNIA.

GOPHERS, SQUIRRELS
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EXTERMINATED WITH
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The rodents contract a contagious disease which rapidly exterminates them. The virus is harmless to man and domestic animals.
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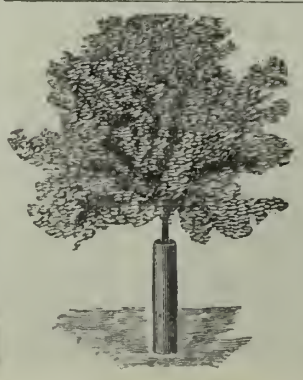

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GILMAN'S PATENT Tule Tree Protector.
PATENTED AUGUST 1, 1893.
FIRST PRIZE—Medal and Diploma—California Midwinter International Exposition.
Cheapest, best and only one to protect trees and vines from frost, sunburn, rabbits, squirrels, borers and other tree pests.
For testimonials from parties who are using them, send for descriptive circulars.
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Vegetable : Flower : Grass

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Clairac Mammoth, Imperial, Giant and Tennant Prunes.
Wickson and Red June Plums.
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Early Koonce and Lincoln Coreless Pears.
Best Early and Late Apples.

No Irrigation. Satisfaction Guaranteed.

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Plums, Prunes and Apricots on the true Myrobolan Root my specialty. No cut-backs or held over tree, dug-stock. No insect pests.

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Buds taken from bearing trees.
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THE LARGEST AND BEST OF ALL PRUNES. ALSO

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The Arizona Everbearing Strawberry was originated near Phœnix, Arizona, and brought to this country about three years ago by C. B. Hewitt of Pasadena. It has proven to be the most prolific, luscious and profitable Strawberry yet known on the Pacific coast. It bears fine large bright red berries, frequently measuring from 5½ to 6 inches in circumference, with a polish as if they were varnished. It is a continual bearer from April to January, resting only during January, February and March. The Seedless, Leonardy and Walters, Pomelo (or grape fruit)—the best varieties yet known in this country—were also brought from Florida by C. B. Hewitt four years ago, of which he has an orchard in bearing. Also very fine Nursery Trees of various varieties For prices of Trees and Plants write the HEWITT FRUIT AND NURSERY CO., Pasadena, California.

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A Well Selected and Complete Assortment of

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Fruit and Vegetables Nearly TWICE Usual SIZE.

A wonderful plant food—makes citrus and deciduous fruits, corn, vegetables, berries, melons, grapes, &c., grow to mammoth size—hastens maturity—a vegetation energizer, invigorating, vitalizing, health infusing, resisting fungoids, blights, scale and insect ravages—quickens sap circulation—old trees revitalized—100 gallons cost 40 cents—ingredients convenient.—Formula for making and applying, sent sealed, $9—money returned if failure satisfactorily shown, or $5 no recourse; same formula in either case—has never failed, properly used. For character and integrity, refer to Hon. Norman J. Colman, ex-Sec'y Agriculture; Geo. A. Baker, Pres't Continental Nat'l Bank, St. Louis, Mo.—Judge H. Austill, Mobile, Ala.—stamp to references. If more particulars wanted, send 2-cent stamp. For formula remit postal money order payable at Mobile, Ala., or registered letter to W. H. GARRETT, Bayou Labatre, Mobile Co., Ala.

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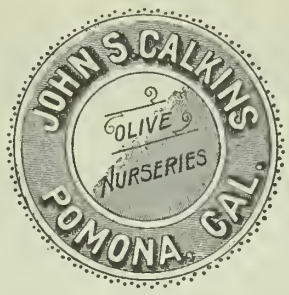

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Don't risk the loss of time, labor and ground by planting seeds of unknown quality. The market is full of cheap unreliable seeds. FERRY'S SEEDS are always the best; do not accept any substitute. Seed Annual Free.
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For Sale. Riparia and Lenoir Cuttings.

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A general assortment of deciduous fruit trees at reasonable rates.
French and Robe de Sergent Prunes on Myrobolan and Newton Pippin Apple in good supply.
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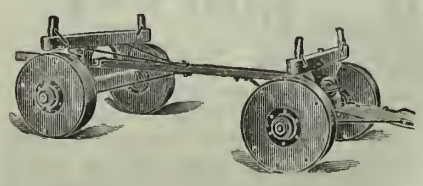

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WHEN YOU BUY, BUY THE BEST.

Trade **H.H.H.** Mark.

Horse Medicine!

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Will Remove All Callous Lumps, Spavins Wind Galls, Ring Bone, Pole Evil, and Will Cure Sweeney, Scratches, Sore Shoulders, Distemper, Contraction of Leaders, Fistula, and All Blemishes on the Horse.

AS A FAMILY LINIMENT, IT IS THE BEST IN THE WORLD.

Do not be deceived by anyone who says he has as good or better liniment than the H.H.H., for he is an impostor and you will surely waste your money if you buy it. Insist on having the H.H.H. and no other. Examine every bottle to see if the name of Henry H. Moore is on label pasted on bottle, and the firm name is on outside cover of wrapper, before you buy it.

Manufactured by
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The Roentgen Ray Cure for Blindness.

This is surely an age not alone of marvelous inventions in the arts and sciences, but it is also an age of fads, fakes and unbounding faith. There never was a time in the history of the world when people more readily yielded themselves as victims to medical charlatans and quacks than at the present time. On the other hand, there never was a time when such tremendous efforts were made to educate the general public in questions of science and medicine. Commencing with the grammar school up through all grades of our public schools, anatomy, physiology, chemistry and physics are taught in more or less of a rudimentary way. Every monthly journal, every daily and weekly paper has a department devoted to these subjects. Special scientific journals having a wide circulation among the reading public discuss medical questions in every number. Lecturers with stereopticon travel about the country presumably to amuse, and incidentally to instruct their hearers on familiar topics. Almost every family has a book with some such title as "The Family Doctor," "The Family Saddle Bags," "The Family Medicine Chest," etc. Yet, with all these attempts to give instruction, the public are just about as ignorant as ever on the things of which they ought to have some degree of intelligence, and more than ever credulous and ready to accept every tale of marvel which they read in the daily press. The greater the improbability the more readily do the gullible public seize and gloat upon it.

For example, let us consider the latest fad, the X ray cure for blindness. This fad has received its impetus only through the statement of Edison, that within three years the blind, those whose optic nerve is not destroyed, will be able to see. The hopes of many thousands of unfortunate blind, that they may be made to see, have suddenly been raised to a high pitch. Every newspaper in this country has exploited this statement in startling headlines.

Since we know that the eyeball is, like bone, opaque to the X ray, and as the retina in health is unable to perceive any sensation of light from the rays before it has been made visible by fluorescence, we should hardly expect an optic nerve wholly or partially atrophied to respond to an excitation too weak for the normal eye to perceive. To restore vision to a blind eye by exposure to these X rays there must be some action which will cause a regeneration of the atrophied fibres or dissolve opacities lying between the nerve and the anterior surface of the eye. Electricity applied to even a sightless eye may cause flashes to be seen, but the sensations are purely subjective, exactly as the sensations of light which sometimes occur in a person who has lost both eyes by enucleation. This whole business is a delusion and a snare. Mr. Edison has made a serious mistake in permitting his name to be used, as he has to foster hopes which can never be realized. Until he has submitted positive proof in place of the bald assertion that the X rays possess curative powers in any degree, he should be silent on the subject. It must be borne in mind that there is not a particle of difference, as far as the perception of light by the retina is concerned, between the vibrations which come to it from the fluorescent screen or those of any other illuminating point of like intensity having the same wave lengths.

Instead of the X rays having curative power, there seems to be, on the contrary, an impression that these waves may produce harmful results. The way we run after fads at the present day would almost warrant us in accepting Nordau's views on degeneration. However, we have hopes that a time will come when we shall turn over to experts all new discoveries, or alleged discoveries, of sure cures for diseases for thorough examination and trial. We may have to wait until such time as faith in the power of the forked stick to point out the hidden veins of water and mineral give place to scientific methods, but it is bound to come in the fullness of time. —Pacific Medical Journal.

Breeders' Directory.

Six lines or less in this directory at 50c per line per month.

Horses and Cattle.

F. H. BURKE, 626 Market St., S. F. Holsteins, winners of every first prize State Fair this year, seven days' butter contest; Jerseys and Durhams competing. Berkshire Pigs.

JERSEYS The best A. J. C. C. registered prize herd is owned by Henry Pierce, S. F. Animals for sale.

BULLS—Devons and Shorthorns. All pure bred and registered. Fine individuals. At prices to suit the times either singly or in carload lots. Oakwood Park Stock Farm, Danville, Cal.

PETER SAXE & SON, Lick House, S. F., Cal. Importers and Breeders. for past 21 years, of every variety of Cattle, Horses, Sheep and Hogs. Correspondence solicited.

JERSEYS AND HOLSTEINS, from the best Butter and Milk Stock; also Thoroughbred Hogs and Poultry. **William Niles & Co.**, Los Angeles. Cal. Breeders and Exporters. Established in 1876.

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PARKVIEW POULTRY FARM, F. P. Lowell, Prop., Sacramento, Cal. Breeder of high-class Black and White Langshans; Brown, Buff and White Leghorns, Barred Plymouth Rocks and Golden and Silver Wyandottes. Write for circular.

SANTA TERESA POULTRY FARM, Eden Vale, Cal. Barred Plymouth Rocks. Black Minorcas, White Leghorns, Brown Leghorns. Fine Stock and Eggs for sale. Send for circular.

FOR SALE.—Trio Buff Cochin, 1st prem. cock, 1 & 2 hens; also 1st & 2d prem. Buff Leghorn cockerels, at State Fair. Box 740, L. E. Brainard, San Jose, Cal.

SEND FOR CATALOGUE OF CALIFORNIA'S greatest poultry farm. J. W. Forgeus & Co., Santa Cruz, Cal.

PURE BRED POULTRY AND EGGS. Carman Bros., San Jose, Cal. Barren eggs replaced.

WELLINGTON'S IMPROVED EGG FOOD for poultry. Every grocer and merchant keeps it.

MANHATTAN EGG FOOD, Red Ball Brand, at all grocers; or wholesale. Tillman & Bendel, S. F.

CALIFORNIA POULTRY FARM, Stockton, Cal. Send for illustrated and descriptive catalogue. free.

WILLIAM NILES & CO., Los Angeles, Cal. Nearly all varieties of Poultry, Dairy Cattle and Hogs.

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TYLER BEACH, San Jose, Cal. Breeder of Registered Thoroughbred Scotch Collie Shepherd Dogs.

NEW MAMMOTH Poultry Guide for 1897. Something entirely new; almost 100 pages; contains lithograph plate of Fowls in natural colors; plans for poultry houses, remedies and recipes for all diseases; how to make Poultry and Gardening pay; only 15 cents. John Bauscher, Jr. Box 60 Freeport, Ill.

For a knife that will cut a horn without crushing, because it cuts from four sides at once get

THE KEYSTONE DEHORNER

It is humane, rapid and durable. Fully warranted. HIGHEST AWARD AT WORLD'S FAIR. Descriptive circulars FREE. A. C. BROSIUS, Cochranville, Pa.

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Combined 4 Tools in one. Most useful for Farmers & Mechanics. Small space; always ready.

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Improved Pacific Incubator.

Absolutely Self-Regulating. Hot Water.

Send stamp for our catalogue of Incubators, Wire Netting, Blooded Fowls and Poultry Appliances generally. *Remember the Best is the Cheapest.*

PACIFIC INCUBATOR CO., 1317 Castro St., Oakland, Cal.

BUY NO INCUBATOR

and pay for it before giving it a trial. The firm who is afraid to let you try their incubator before buying it, has no faith in their machine. We will sell you ours ON TRIAL. NOT A CENT until tried, and a child can run it with 5 minutes attention a day.

We won FIRST PRIZE WORLD'S FAIR and will win you for a steady customer if you will only buy ours on trial. **Our large catalogue will cost you 5 cents and give you $100 worth of practical information on poultry and incubators and the money there is in the business.** Plans for Brooders, Houses, etc., 25c N. B.—**Send us the names of three persons interested in poultry and 25 cents and we will send you "The Bicycle: its Care and Repair," a book of 180 subjects and 80 illustrations, worth $5 to any bicycle rider.**

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Oranges

are heavy feeders of Potash. Potash exerts a marked influence on the quality and quantity of the fruit. As many soils are largely deficient in Potash, a heavy application of a fertilizer containing not less than 12% of

Actual Potash

should be made. The best groves in the state will bear testimony to these facts.

Our pamphlets are not advertising circulars booming special fertilizers, but are practical works, containing latest researches on the subject of fertilization, and are really helpful to farmers. They are sent free for the asking.

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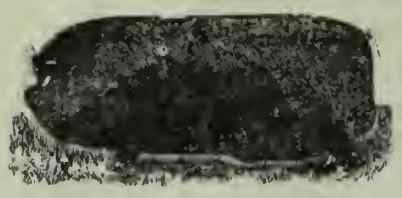
STATE FAIR PAVILION, - - - SACRAMENTO, CAL.

POULTRY, Jan'y 6,7,8,9,10,11,12,13. BENCH SHOW, Jan'y 9,10,11,12.

ENTRIES POSITIVELY CLOSE JANUARY 1, 1897.

J. OTIS FELLOWS, Hornellsville, N. Y., Judge of all Classes.

President, J. A. SCHOLEFIELD, Hollister, Cal. Secretary, W. E. LADD, P. O. Box 220, Stockton, Cal.



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Lynwood Dairy and Stock Farm

P. O Box 686, Los Angeles, Cal.

Our Berkshires and Poland-Chinas are again in the lead. At the State Fair, with strong competition, we won 16 premiums—8 firsts, 3 seconds, 5 sweepstakes—out of 19 entries. Choice pigs from the prize winners ready to ship at reasonable prices. Send for our new catalogue.

THE SAN JOSE AGRICULTURAL WORKS.

—THE— **Grant Pat. Cultivator,** Made by the San Jose Agricultural Works, Beats the record for getting up to the trees in the old orchards. Made Any Size up to 12 Feet.

—THE— **"San Jose Cultivator"** Is the very best, all-around, up-to-date cultivator in the field . . .

Made by the **. . San Jose . . Agricultural Works,** W. T. ADEL, - - - MANAGER. Write for Prices.

CHAMPION Spray & Whitewash Pump.

The cut herewith illustrates our new spraying pump, the "Champion," and its adaptability to the work for which it has been especially designed. As will be seen from the illustration, the pump is very complete and strong. It is perfectly double-acting and has a brass-lined cylinder. The motion of the piston is horizontal. The handle is so arranged that the leverage is very powerful, and the movement is easy and natural. The air chamber is unusually large, admitting of the continuous discharge necessary for good and thorough spraying.

STANDARD SPRAY AND WHITEWASH PUMP.

We have had this pump constructed especially for the purpose intended. It has great strength and is simple in its construction. There is nothing to get out of order. It is so arranged that it can be set on the top of an ordinary barrel. With the large air chamber, you are capable of throwing a very fine and regular spray. The top or handle of the pump can be revolved to any position to meet the requirements of the operator. It is operated very easily and is not laborious to the party using the pump. The valves are very accessible. In fact, there is no cheaper or better pump. We carry a full line of all kinds of Spray Nozzles, Hose, etc. Send for special catalogue and prices, mailed free.

WOODIN & LITTLE, 312-314 Market St., S. F.

S. F. MARKET REPORT.

Produce Market.

SAN FRANCISCO, Dec. 22, 1896.

Prices quoted in this review are intended, unless otherwise specified, to represent wholesale values, obtainable on offerings from the producer, and on round lots delivered at San Francisco. The reviews of the markets are for the week ending Tuesday noon, while quotations are based on values current on above date. It is the aim of THE PACIFIC RURAL PRESS to have its quotations represent as nearly as possible the existing values. It should be remembered, however, that at times, owing to superior merit of offerings, undue competition between buyers, or other reasons, higher figures are realized than are justified as quotations. On the other hand, produce of decidedly inferior quality is apt to be sold at less than lowest figures.

Receipts and exports of leading cereals and other California products for the past week and for the season to date, as compared with corresponding time the previous year, are as follows:

PRODUCE RECEIPTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	101,980	3,217,657	2,393,761
Wheat, ctls.	360,194	7,943,163	5,420,920
Barley, ctls	55,180	3,672,559	2,140,459
Oats, ctls	39,733	384,506	355,254
Corn, ctls	3,820	104,933	105,493
Rye, ctls	780	112,771	22,252
Beans, sks	6,115	400,794	366,172
Potatoes, sks	34,194	575,866	530,546
Onions, sks	1,720	79,270	67,231
Hay, tons	1,221	80,623	80,073
Wool, bales	708	36,495	38,746
Hops, bales	4	6,480	8,748

EXPORTS.

FOR THE WEEK.		Since July 1, '96.	Same Time Last Year.
Flour, ¼-sks	2,380	2,282,500	1,555,559
Wheat, ctls	336,483	7,398,201	5,091,511
Barley, ctls	3,121	2,844,153	1,423,490
Oats, ctls	242	16,415	11,960
Corn, ctls	....	7,478	14,046
Beans, sks	5	247,894	227,203
Hay, bales	1,685	28,727	25,827
Wool, lbs	....	6,698,112	9,254,096
Hops, lbs	48,507	712,853	822,942
Honey, cases	1	2,003	6,092
Potatoes, pkgs	....	39,899	59,960

Grain Freights and Charters.

There is no improvement to record in the general condition of the grain charter market. Deep-sea ships, suitable for grain loading, are in liberal supply, as compared with immediate requirements or the probable needs of the next six months. Rather than have their vessels lay idle for an indefinite period, some owners are willing to accept unprofitable figures, and take the chances of making something on inward cargo, or securing better freight rates elsewhere. Ships have been lately secured for wheat at the low figure of £1 for Australia, with option of several ports, and for Cape Town, South Africa, at same rate. For desirable iron vessels to Cork, U. K., for orders, usual option, rates are nominally 17s 6d to £1.

Charters.

German ship Othmarschen, 1722 tons, wheat to U. K., Havre, Antwerp or Dunkirk, £1 7s 6d; direct port, £1 6s 3d, chartered prior to arrival.

British ship Arctic Stream, 1498 tons, wheat to Cape Town; £1 6s 3d.

British ship Belford, 1771 tons, wheat to Algoa Bay, terms private.

British ship Port Logan, 1833 tons, now at San Diego, comes to this port to load wheat for Cape Town; £1, chartered in England.

GRAIN CHARTERS.

	Tonnage engaged.	Disengaged.	To arrive.
1896	52,439	90,208	190,437
1895	87,440	10,842	256,234

Flour.

While the market is displaying firmness, being fully as unfavorable to buyers as for some time past, there is not much wholesale trading in progress, as is usual near the end of the year. After the holidays more business in this line is looked for. Considerable of the flour now going abroad and some of that being delivered on local account was contracted for earlier in the season at lower figures than are now prevailing.

Superfine, lower grades	$3 00@3 25
Superfine, good to choice	3 30@3 50
Country grades, extras	4 25@4 50
Choice and extra choice	4 50@4 75
Fancy brands, jobbing	4 75@5 00
Oregon, Bakers' extra	4 25@4 50
Walla Walla, Bakers' extra	4 25@4 50

Wheat.

Ocean freights and prices for wheat, as compared with a year ago, are as follows:

	1895-96.	1896-97.
Liv. quotations,	5s3½d@5s4½d.	7s3d@7s4d.
Freight rates,	27@28¾s.	17½@20s.
Local market.	$1.00@1.02½	$1.47½@155

The ups and downs customary to the speculative wheat market, and which have been particularly frequent and pronounced during the past month or two, have continued a somewhat prominent feature of the local market since last review. At close of last report the trend of Call Board prices was decidedly downward, although spot values showed no appreciable decline. Any weakness observable in the market for spot deliveries was confined almost wholly to low-grade wheat, of which there is considerable offering, especially from Washington and Oregon. That No. 1 to select wheat will be obtainable at low figures, or will meet with a weak market during the balance of the season, does not seem at all probable. Stocks of choice are far from heavy, and aside from the home demand for milling, this class of wheat is still in request for shipment to Australia, and also South Africa, vessels having been reported chartered for last named destination during the week under review. With firmer prices East and abroad, there was a recovery here on Saturday last in the speculative market, May wheat advancing over 2c from lowest figures of previous day, and closing at $1.53⅜. Spot wheat was at same time held more firmly than for a day or two preceding, but was not quotably higher. There was no particular change Monday, May wheat closing the same as on Saturday. The market Tuesday showed a little more firmness, with Liverpool slightly higher and Chicago unsettled, with upward tendency.

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 white wheat per cental for the week were as follows for the options named:

December, 1896, delivery, --@—.

May, 1897, delivery, $1.51¼@1.54¼.

Tuesday, at regular noon session of Call Board, December wheat sold at $—; May at $1.53⅜@1.54¼.

California Milling	$1 50 @1 60
Cal. No. 1 shipping, alongside	1 47½@1 50
Oregon Valley	1 45 @1 50
Walla Walla Blue Stem	1 35 @1 52½
Walla Walla Club	1 35 @1 50

Barley.

The market for this cereal has not been noteworthy for any great activity since last review, but there has been a fair amount of business transacted, and for the better grades prices have been quite well maintained. Inferior qualities, however, are not specially sought after, and market for the same was in the main more favorable to the buying than to the selling interest. Barley is still going afloat for foreign countries, including some Chevalier for Australia, and more would doubtless go abroad, both Chevalier and the ordinary variety of Brewing, if desirable qualities were readily obtainable in wholesale quantity. During the latter half of last season about 50,000 tons of barley were exported, with wheat in much more liberal supply than at present. Ships were then obtaining better freight rates, and charterers and owners were less pressed or puzzled to secure cargo than at this date. Prospects are good for a clean-up of the better grades of barley before the coming season opens, and it is not likely that to accomplish this the acceptance of materially lower figures than have been lately current will be necessary. Values on Call Board were tolerably steady, fluctuating less than previous week.

Feed, No. 1 to choice	85 @ 90
Feed, fair to good	82½@ 87½
Brewing, No. 1 to choice	95 @1 00
Chevalier, No. 1 to choice	1 05 @1 15
Chevalier, No. 2	85 @ 92½

CALL BOARD PRICES.

On San Francisco Call Board prices for No. 1 feed barley, per cental, for the week ranged as follows for the options named:

December, 1896, delivery, —@--c; May, 1897, delivery, 92⅝@93⅜c.

Tuesday at regular noon session of the Call Board, December feed sold at ——; May feed at 93c.

Oats.

The high prices established during the past few months have drawn forth liberal quantities of this cereal from points East of the Sierras, and heavier amounts from Puget Sound section than had been generally anticipated from the latter quarter. While supplies during the past few weeks have been tolerably heavy, most of the offerings have been of rather low grade, and this has operated against the selling interest. There was little urgent demand for other than strictly select, the inquiry on this account being mainly for race horses, and buyers of this description did not take hold very freely at extreme rates current.

White Oats, fancy feed	1 35 @1 40
White, good to choice	1 20 @1 30
White, poor to fair	1 05 @1 15
Gray, common to choice	1 20 @1 30
Milling	1 25 @1 35
Surprise, good to choice	1 50 @1 57½
Black Russian	1 15 @1 35
Red	1 10 @1 30

Corn.

A moderate amount of business has been transacted in Large Yellow within range of quotations, which remain much the same as last noted. Supplies of above variety were of fair proportions but were largely Eastern. Small Round Yellow was not offered freely, and buyers in quest of this variety found it necessary to pay comparatively stiff prices. Large White failed to attract much attention from buyers in a wholesale way. Popcorn had to be choice to readily command the outside prices quoted.

Large White, good to choice	82½@ 87½
Large Yellow	82½@ 87½
Small Yellow	1 00 @1 05
Popcorn, shelled, ₹ lb	1½@ 1¾

Rye.

Demand is slow and mainly on local account. The market is rather weak at the quotations, and off qualities are especially difficult to move at satisfactory rates.

Good to choice, new	92½@1 00

Buckwheat.

Market appeared to be moderately firm for choice to select, which is more due to stocks being limited and in few hands, than to much urgent or positive demand at this date.

Good to choice	1 20 @1 25
Silverskin	1 25 @1 30

Beans.

The following review of the Eastern bean market is furnished by mail from New York under recent date. Prices given in the report from the East are per bushel of 60 lbs.:

The market for strictly choice domestic Marrow beans has ruled fairly steady under a moderate export demand and no pressure to sell; reported sales of such at $1.37½@1.40, generally the latter figure. Home trade has been comparatively small and it seems probable that jobbers will buy from hand to mouth until after the turn of the year. Medium and Pea have dragged and values have settled to $1.10 for the former and $1 for the latter. It might be difficult to buy much stock on the spot at those figures, but sales could not be effected at any more money at the moment. Havana exporters have taken a fair quantity of Red Kidney, and, with comparatively light receipts, the price has been advanced 5c; early sales at $1.42½, then at $1.45, and feeling now quite firm on choice, dry lots. It is now very certain that this crop of beans will be much below last year in point of quality. Some shipments from best packers show soft beans, and it is likely that a wider range in values will be necessary. Prices being low, buyers generally want the best. White Kidney in small supply and steady. The few Turtle Soup received thus far brought an extreme price, but indications point to a break at once. Yellow Eye slow and easy. Lima dull and in buyers' favor; quotable at $1.35. Very little call for Lady Washington at $1@1.05. Green peas quiet and barely steady.

This market has ruled quiet since last review, and no special changes have been developed in quotable rates. For most varieties of white beans the tendency of values was in favor of the buying interest. Limas were obtainable at comparatively easy rates. Small White and Lady Washington were offering in much larger quantity than was warranted by the demand. Colored beans are, however, being quite steadily held. Red Kidneys and Bayos show the most firmness, with limited stocks of these, particularly of the first named variety. Overland freight rates have been reduced 25c per ton to Texas and Missouri

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river points, which may cause a little more activity in the near future.

Pea, fair to good, 100 lbs	$1 30	@1 50
Small White, good to choice	1 25	@1 35
Lady Washington	1 15	@1 25
Butter, small	1 25	@1 40
Butter, large	1 40	@1 60
Pinks	1 15	@1 25
Bayos, good to choice	1 50	@1 60
Reds	1 30	@1 40
Red Kidneys	2 25	@2 50
Limas, good to choice	1 80	@1 95
Black-eye Beans	1 15	@1 30
Horse Beans	1 00	@1 10
Garbanzos, large	2 50	@2 75
Garbanzos, small	1 50	@1 75

Dried Peas.

Very little doing in this line. Offerings and demand are both of insignificant proportions. Quotations remain nominally as last week.

Green Peas, California	$1 25	@1 40
Niles Peas	1 00	@1 20

Hay and Straw.

Nothing of an encouraging character to note in the market for hay. Although the aggregate of arrivals lately has been light, buyers have operated in such a small way that offerings proved more than enough for the existing inquiry. No great increase in the demand is expected during the balance of the season. Quotations remain about as last noted, with sales at full current figures the exception. Straw remains in ample supply for the immediate demand.

Wheat	7 50@	10 50
Wheat and Oat	7 00@	10 00
Oat	6 00@	8 50
Barley	6 00@	8 50
Clover	6 00@	7 50
Stock Hay	4 50@	5 50
Alfalfa	6 00@	7 50
Compressed	6 00@	9 50
Straw, ₱ bale	35@	50

Wool.

The dullness noted in former review is still being experienced, with no prospect of any change until after the holidays. There is considerable stock on hand, including some of nearly every description. Although the clip was lighter than last year, there is probably more wool now stored in the wholesale depots in this center than there was a year ago. In the absence of any noteworthy business, quotations at this date represent little more than nominal values. In Eastern centers the same lack of activity is reported as is existing here.

SPRING.

Nevada, as to condition	7	@ 9
Oregon Valley, select	9½	@11
Oregon Valley, low grade	8	@ 9½
Oregon, Eastern	7½	@ 9

FALL.

Humboldt and Mendocino	7	@ 9
Northern California free	7	@ 9
Northern defective	5½	@ 7
Middle Counties free	6	@ 7½
Middle counties defective	5½	@ 6½
San Joaquin and Southern	3½	@ 5

Hops.

The Eastern hop market is thus outlined by a New York authority:

The volume of business on the local market has been very small again this week, and while there have been reserved offerings of prime and choice grades of both State and Pacific coast hops and a steady feeling in consequence, lower grades have appeared to be more plentiful, with some sales at reduced prices. The fact is that exporters are holding off, awaiting the developments in the English markets after the turn of the year. They are forwarding some lots bought a week or two ago, and which were delayed by a scarcity of freight room, but are making no fresh purchases. Noting the absence of foreign demand, brewers have been very indifferent about looking at samples and have talked as if they regarded prices as too high. Advices from the interior of this State indicate light trading, but no change in views of growers and country dealers. On the Pacific coast the feeling is strong; it is estimated that only 4000 bales are left in Oregon and Washington. The California stock is not known so accurately. England is steady but quieter. German markets firm for choice stock, but low grades are weaker.

The United States Consul in Germany has the following to say of the German hop trade:

To-day, when Germany's wheat trade is hard pressed by the imports from the United States, the Argentine Republic, and Russia, it may not be uninteresting to examine into similar signs in the hop trade. As a matter of fact, German hops in like manner are threatened by the competition of foreign countries, especially the United States, and no matter how great the industry and intelligence displayed in both branches in Germany, the enormous tracts of arable land in the United States are bound to secure the latter the upper hand in the end. In England the aspect of things is altogether changed, since the United States have taken to exporting hops. California has become the chief competitor of the German hop exporter. This renders it exceedingly difficult to stipulate the prices in Germany, as many sorts are fit only for export. Even in the best of hop districts, there are in Germany spotted hops, against which the English brewer has no antipathy, provided they are cheap. Forced by American competition, the German exporter has to content himself with a very small profit, and while his business may still be a sound one, it is on the decline.

The conditions of the local hop market remain virtually the same as noted in previous issue. Inquiry which exists is largely for choice to select, and only the very best qualities can be readily or advantageously placed. Jobbers are as a rule contending for materially higher figures, allowing a fair margin for profit, than they are willing to pay on offerings from the hands of growers.

Fair to choice, 1896 crop	8	@11

Millstuffs.

Market has been better supplied with bran, and buyers have been able to operate to better advantage. Middlings continued to be offered sparingly, and brought moderately firm figures. Rolled barley was in fair supply, commanding steady prices. Milled corn was without quotable change.

Bran, ₱ ton	12 50@	13 50
Middlings	16 50@	20 00
Barley, Rolled	19 50@	20 00
Cornmeal	19 50@	20 00
Cracked Corn	20 00@	20 50

Seeds.

Mustard Seed is not arriving in large quantity at present, nor are there any heavy stocks in this center from previous receipts. There is a fair shipping demand at the prevailing rates, for both Yellow and Brown. Last Saturday's Panama steamer took 35,664 lbs Mustard Seed for New York. In Flaxseed there is not much doing, but former quotations continue in force. Alfalfa is receiving a little more attention since the recent rains, and market for same is tolerably firm at the quotations.

	Per ctl.	
Mustard, Yellow	2 00@	2 25
Mustard, Trieste Seed	3 00@	3 25
Mustard, Wild Brown	2 25@	2 50
Flax	1 30@	1 50
	Per lb.	
Canary	2¼@	2¾
Rape	2¼@	2¾
Hemp	3¼@	3½
Alfalfa, Utah	6¼@	6½

Bags and Bagging.

Grain Bags are being held about as last quoted, dealers expressing faith in the future of the market, but up to date there has been very little purchasing by farmers on next season's account. Market for Wool Sacks, Gunnies, and other bags and bagging, is displaying very little life, and quotable values remain nominally as previously noted.

Grain bags, 22x36, spot	4¾@	4⅞
Grain bags, buyer June-July	4⅞@	5
Wool sacks, 4 lb	28	@—
Wool sacks, 3½ lb	26	@—
Gunnies	9	@—
Bean bags	4	@ 4¼
Fruit sacks, cotton	5½@	7½

Hides, Pelts and Tallow.

The Hide market is lacking in firmness, and it may be necessary to reduce quotations at an early day. Pelts are going at generally unchanged figures. Tallow is ruling steady.

Only select hides, clean and trimmed, can be relied on to bring full figures. Culls of all kinds, either from grubs, cuts, hair slips, side brands or murrain, are not always readily placed at the lower quotations.

	Sound.		*Culls.*	
Heavy Steers, over 56 lbs	8	@ —	7	@ —
Medium Steers, 48 to 56 lbs	7	@ —	6	@ —
Light Steers, under 48 lbs	6	@ —	5	@ —
Heavy Cow Hides, over 50 lbs.	6	@ 6½	5	@ 5½
Light Cow Hides, under 50 lbs.	6	@ —	5	@ —
Wet Salted Kip	6	@ 7	5	@ 6
Wet Salted Veal	6	@ 7	5	@ 6
Wet Salted Calf	7	@ 8	6	@ 7
Dry Hides	12	@13	9	@10
Dry Kip and Veal, 11 to 16 lbs	9	@10	7	@ 8
Dry Calf, under 4 lbs	—	@15	—	@10
Horse Hides, large dry			75@	—
Horse Hides, large, wet salted			75@	1 00
Horse Hides, medium			50@	—
Horse Hides, small			25@	—
Colts' Hides			25@	—
Pelts, long wool, per skin			50	@60
Pelts, medium, per skin			40	@50
Pelts, short wool, per skin			20	@35
Pelts, shearling, per skin			10	@15
Deer Skins, best summer			20	@25
Deer Skins, good medium			15	@20
Deer Skins, thin winter			7	@ 9
Elk Hides			7½	@ 9
Tallow, good quality			3	@—
Tallow, No. 2			2½	@—
Goat Skins, perfect			20	@35
Goat Skins, damaged			10	@20
Kid Skins			5	@—

Honey.

There is little inquiry at present, either on local account or for shipment. Supplies in this center are not large, but of amber grades there are more than can be accommodated with immediate custom. Only choice to select water white commands any special attention.

White Comb, 1-lb frames	10	@11
Amber Comb	7½@	9
Extracted, White Liquid	5½@	6
Extracted, Light Amber	4¼@	4¾
Amber Colored and Candied	3¾@	4¼
Dark Tule	2¾@	3

Beeswax.

Stocks and demand are both limited. Values remain as previously quoted, there being little or no selling pressure.

Fair to choice, ₱ lb	23	@26

Live Stock and Meats.

Hogs have been arriving a little too freely, most packers having more than they could conveniently handle. Values on Beef and Mutton were as a rule well sustained. Following are wholesale rates:

Beef, 1st quality, dressed, net ₱ lb	5½@	6
Beef, 2d quality	4½@	5
Beef, 3d quality	3½@	4
Mutton—ewes, 5@5¼c; wethers	6	@—
Hogs, hard grain fed, medium size, fat	3⅛@	3¼
Hogs, large hard	3⅛@	3¼
Hogs, soft and feeders	—	@—
Hogs, country dressed	4	@—
Veal, small, ₱ lb	5	@ 6
Lamb, spring, ₱ lb	7	@—

Poultry.

This market was not in as satisfactory shape for sellers as many would naturally expect at Christmas time. There were several reasons for this, one of them being the entirely too heavy arrivals of poultry of ordinary quality. Most consumers insist on having first-class stock, and especially are they particular in this regard on holiday occasions. There was some poultry so poor that it could not be placed at inside quotations, while really choice commanded a premium over top rates below noted. Turkeys received the most attention, and, while not in very heavy receipt for Christmas time, it was difficult to to get very good prices, largely owing to the fact that many retailers lost money Thanksgiving time by paying the higher rates then current.

Turkeys, dressed, per lb	12@	15
Turkeys, live hens, ₱ lb	13@	14
Turkeys, live gobblers	13@	14
Hens, Cal., ₱ doz	3 00@	4 50
Roosters, old	4 00@	4 25
Roosters, young, (full-grown)	3 50@	4 50
Fryers	3 25@	3 50
Broilers, large	3 00@	3 25
Broilers, small	2 00@	3 00
Ducks, young, ₱ doz	4 50@	5 50
Ducks, old	4 00@	5 00
Geese, ₱ pair	1 50@	2 00
Goslings, ₱ pair	—@	—
Pigeons, Old, ₱ doz	75@	—
Pigeons, Young	1 00@	1 25

Butter.

Stocks of fresh cannot be termed heavy, but the supplies are ahead of the demand and the market is weak, unless for a little very select northern creamery, the quantity of the latter now coming forward being quite light. Good to choice dairy and separator butter is offering freely at low figures, with light demand, owing to retailers and large consumers running heavily on packed butter of their own. Market for packed butter naturally presents an easy tone, with no extensive trading in the same.

Creamery extras, ₱ lb	23	@24
Creamery firsts	22	@23
Creamery seconds	20	@21
Dairy select	20	@21
Dairy seconds	14	@17
Dairy, soft and weedy	—	@—
Mixed store	11	@13
Creamery in tubs	16	@17
Pickled roll	16	@17
Dairy in tubs	15	@16
Firkin, Cal., choice to select	15	@16
Firkin, common to fair	11	@12

Cheese.

For high grade new, rich in body and mild in flavor the market remains firm, some favorite makes going at higher rates than are quotable. Ordinary qualities, although in rather slim supply, are not selling very rapidly at the prices generally asked.

California fancy flat, new	12	@—
California, good to choice	10	@11
California, fair to good	9	@10
California, "Young Americas"	10	@13

Eggs.

Market showed a little more steadiness than preceding week, but there were further slight declines immediately after last review from the figures then quoted. There were no heavy stocks of any description, and if there had been anything like confidence among buyers, concerning the future, better prices would certainly have prevailed. With probability of lower figures, however, soon after the holidays, both buyers and sellers are making a point at present to carry as light stocks as possible. There are few Eastern eggs now here, the markets East being higher than in this center.

California, select, large white and fresh	27½@	30
California, select, irregular color & size	24	@26
California, good to choice store	23	@26
California, common to fair store	20	@22½
Oregon, prime	—	@—
Eastern, as to section and grading	23	@26
Eastern, seconds	—	@—
Duck eggs	25	@—

Vegetables.

Spring vegetables are in light receipt from any quarter. Some recent arrivals showed serious damage from frost. Such as were in desirable condition sold as a rule to very good advantage Winter vegetables were not in heavy supply, and the tendency of the market for best qualities was in favor of the seller, although quotable rates did not show any marked changes.

Asparagus, ₱ lb	10@	25
Beans, Garden, ₱ lb	6@	8
Beans, Lima, ₱ lb	7@	—
Cabbage, choice garden, ₱ 100	50@	60
Cauliflower, ₱ doz	40@	50
Cucumbers, Alameda, large box	—@	—
Egg Plant, ₱ lb	5@	7½
Garlic, ₱ lb	1½@	2
Mushrooms, Buttons, ₱ lb	25@	—
Mushrooms, Wild, ₱ lb	10@	15
Okra, Dried, ₱ lb	8@	10
Onions, Red, ₱ cental	—@	—
Onions, Yellow, good to choice	45@	60
Peas, Green, ₱ lb	4@	6
Peppers, Green Chile, ₱ lb	5@	6
Pepper, Bell, ₱ large box	—@	—
Rhubarb, ₱ box	—@	—
Squash, Cream, ₱ box	25@	35
Tomatoes, River, per large box	—@	—
Tomatoes, Los Angeles, ₱ box	75@	1 00

Potatoes.

A very fair demand was experienced, both for local use and for shipment. Market presented a generally healthier tone than at any previous date the current season, although quotable values continued close to the figures last noted. There is a probability, however, of better prices soon ruling, especially for high grade stock. Sweets were in fair sup-

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ply and sold at much the same figures as previous week.

IN SACKS.

Early Rose, River, ℔ cental	60@ 70
Peerless, River	—@ —
Reds, River	45@ 55
Garnet Chile, Mission	—@ —
Burbanks, River	30@ 50
Burbanks, Salinas	60@1 10
Burbanks, Oregon	50@1 00
Sweet Potatoes	75@1 25

The Fruit Market.

Fresh Fruits.

Apples are in fairly liberal supply, but offerings include about as many imported Eastern in barrels as Pacific coast product in boxes. Eastern are averaging lower than previously quoted, many of them sbowing rather poor keeping qualities. Few of the home product in boxes can be termed select. Such as are really choice are commanding very good figures, but defective qualities are dragging at low prices. That the condition of the market for latter sorts will improve is not probable. Both dealers and consumers find little satisfaction in handling faulty fruit, even at figures seemingly favorable to the buyer.

Pears are not making much of a display, either as to quantity or variety. Seldom are stocks so light at this date, although it must be admitted that the season is well advanced. Choice table pears are scarce, and would probably command in a small way more tban quotations. Cooking pears do not receive much attention, despite limited offerings. The latter description is not favored with many admirers among consumers.

Persimmons are not in heavy receipt, but are not commanding materially better figures than previously quoted. This fruit is showing better average condition as to ripeness than at any previous date the current season, but buyers continue to take hold slowly.

Grapes are still seen on market, but only in very small quantity, and not many are required to satisfy the demand. The Verdel variety is in better favor than any other sort now offering.

Strawberries make an occasional showing, but in too small quantity and too irregularly to warrant quoting in a regular way. Most of the berries are lacking in quality and flavor, which is to be expected at this time of year.

Cranberries are in good supply, and the market for both Pacific coast and Eastern is favorable to buyers. Although this fruit is offering at quite easy rates, as compared with former years, dealers complain of unusually light trade. In no previous season was the proportion larger of choice berries.

Apples, fancy, 4-tier, per box	1 00@ 1 25
Apples, good to choice, 50-lb box	75@ 90
Apples, fair to good, 50-lb box	60@ 75
Apples, common, ℔ 50-lb. box	35@ 50
Apples, Eastern, ℔ bbl	2 00@ 3 50
Apples, lady, ℔ box	1 50@ 2 50
Pears, Winter Nells, per box	50@ 1 25
Pears, other kinds, ℔ box	40@ 75
Persimmons, ℔ box	40@ 75

Berries.

Blackberries, ℔ chest	—@ —
Cranberries, Eastern, ℔ bbl	8 00@ 9 00
Cranberries, Oregon, ℔ box	2 25@ 2 50
Currants, Red, ℔ chest	—@ —
Raspberries, ℔ chest	—@ —
Strawberries, Longworth, ℔ chest	—@ —
Strawberries, Large, ℔ chest	—@ —
Whortleberries, ℔ lb	—@ —

Grapes.

Black, ℔ crate	75@ 1 00
Cornichon, ℔ crate	75@ 1 00
Verdel, ℔ box or crate	75@ 1 00

Dried Fruit.

Late Eastern advices by mail furnish the following concerning the dried fruit market on the Atlantic side:

Evaporated apples have arrived very freely, but the bulk of the supply came to exporters on earlier contracts, and is being forwarded to Europe as fast as freight accommodations are secured. There has been more fruit offering here, however, than could be sold, and with a dull, sluggish trade prices have shown further slight weakness. For extra fancy apples 5c has been paid, and they could hardly be bought for less, but average fancy qualities range from 4¼@4¾c, as to quality, buyer, etc. Choice are nominally worth 3¾@4c, but are not salable to any extent. Most holders have asked 3½c for strictly prime dry fruit, but made no headway in selling, and toward the close business is reported for December aud January delivery at 3⅜c. Only a few sun-dried sliced apples here; jobbing slowly at 2@3c. Southern coarse cut dull, and bag stock would not bring over 2c. Some sales of Western and State quarters have been made at 2½@3c, and it is possible that extra quality might go ⅛c higher. Recent business in fancy Canadian quarters is reported at 3⅛@3¼c, but later sales of choice quality at 2⅞@3c have made any higher rate extreme. Chops have had less inquiry and declined, offering freely at $1.50 per 100 pounds, and some sales of prime at $1.45. A good deal of the stock has been too damp, and was rejected. Shippers have inquired for cores and skins, and have paid up to $1.35. Only a few old Southern peaches left. Raspberries firm but quiet. Blackberries and cherries in few hands, and have drawn higher bids. Huckleberries steady. California apricots selling fairly and firm. Peaches in moderate supply, quiet and steady. Prunes a shade easier.

Apricots, Cal. Royal, bxs., 1896, per lb	9 @11½
Apricots, Cal. Royal, bags, 1896, per lb	8 @10
Apricots, Cal. Moorpark, 1896, bxs	12 @15
Peaches, California, 1896, peeled, per lb	11 @15
Peaches, Cal., 1896, unpeeled, lb	7 @10
Prunes, Cal., 1896, as to size	4 @ 8

If there is any difference to record in tbe dried fruit market in this center, trade bas been duller than previous week. Owing to the inactivity prevailing, there is not much opportunity to test values. Quotations remain much as last noted, but they are based mainly on holders' views. To purchase freely at this date, full current figures below named would have to be paid. But to go in quest of buyers just now, lower prices than below recorded would have to be accepted. Only holders who are in immediate need of coin are apt to make any special effort to realize at present. There is ordinarily very little trading at tbis time of the year, wholesalers and jobbers preferring to reduce rather than to increase supplies, as most of them will soon be engaged in taking account of stock and casting the balance sheet for the year. The quantity of dried fruit remaining in the State is not large, even admitting that the busiest portion of the season has passed. Especially are stocks light of all kinds except prunes. Offerings of the latter are tolerably large for an inactive market, and there is more or less shading of rates on this description in favor of the buyers, even on small transfers from jobbers, the latter accepting 4⅛c for 50-60's within the past few days. The sale of apples of Pacific coast curing is being seriously interfered with by the recent importations of Eastern product.

EVAPORATED OR BLEACHED.

Apricots, Royal, in sacks, per lb	7½@ 8
Apricots, Royal, fancy	9 @10
Apricots, Moorpark	10 @12½
Apples, in boxes	5½@—
Nectarines, White	5 @ 5½
Nectarines, Red	4 @ 5
Peaches, unpeeled, prime to choice	5 @ 6
Peaches, unpeeled, choice to fancy	6 @ 7
Peaches, peeled, in boxes	11 @12½
Pears, peeled and sliced	4 @ 5
Pears, unpeeled Bartletts, halved, fancy	6½@ 7
Pears, halved, unpeeled Bartletts	4 @ 5
Pears, quartered, unpeeled Bartletts	4 @ 5
Plums, pitted	4 @ 5
Prunes, in sacks, 4 sizes	3 @ 3½
Prunes, in sacks, small sizes	1½@ 2½
Prunes, Silver	7½@ 8

COMMON SUN-DRIED.

Apricots, ordinary	5½@ 7
Apples, sliced	2½@ 3
Apples, quartered	3 @ 3¼
Figs, Black	2½@ 3
Figs, White	3 @ 4
Plums, unpitted	1½@ 2

Raisins.

While the market is without quotable change, and is not heavily burdened with supplies, there is little doing, and conditions are not favorable for the exertion of selling pressure. Holders of desirable qualities are in the main unwilling to make radical concessions to buyers, but if stocks were crowded to sale current nominal quotations could not be realized.

Imperial Clusters, per box	2 25@ 2 50
Dehesa Clusters, per box	2 00@ 2 25
Fancy Clusters, per box	1 40@ 1 50
Boxes, London layers, 20-lb box	1 20@ 1 25
(Usual advance for fractions.)	
Loose Muscatel, 4-crown, ℔ lb	5½@ —
Loose Muscatel, 3-crown	4½@ —
Loose Muscatel, 2-crown	3½@ —
Sultanas	5½@6
Seedless Muscatel	4¼@4¾
Dried Grapes	3 @ —

Citrus Fruits.

Oranges are in good supply for this early date in the season, and the quality is showing improvement, although it is still the exception where they are sufficiently ripe to be palatable to most tastes. The generally cool weather has operated against their free sale. Prices are at a lower range than a week ago. Business in lemons and limes has been of a light order, and within range of former quotations.

Oranges—Wash. Navels, ℔ box	2 00@ 3 00
Cal. Mediterranean Sweet	— @— —
Cal. Seedlings	1 00@ 1 50
Cal. Valencias	— @— —
Japanese, Mandarin, small box	1 00@ 1 25
Mexican	— @— —
Grape Fruit, ℔ case	5 00@ 6 00
Lemons—Cal., select, ℔ box	2 50@ 3 00
Cal., good to choice	1 50@ 2 00
Cal., common to good	1 00@ 1 50
Limes—Mexican, ℔ box	4 00@ 5 00
Cal., small box	75@ 1 25

Nuts.

There is very little doing in a wholesale way in either almonds or walnuts. Business is of fair volume from jobbers to retailers on holiday account. Quotations remain as before. Peanuts offering from first hands are not moving very rapidly, but where sales are effected they are at unchanged values.

California Almonds, paper shell	8 @ 9½
California Almonds, soft shell	6 @ 8
California Almonds, standard	5 @ 6
California Almonds, hard shell	3 @ 4
Walnuts White, paper shell	9 @10
Walnuts White, soft shell	8 @ 9
Walnuts White, Cal., hard shell	6 @ 7
Chestnuts, Cal. Italian	8 @10
Peanuts, Cal., fair to prime	4 @ 4¾
Peanuts, Eastern hand-picked	5 @ 6
Pine Nuts	9 @10

Cal. Dried Fruits at New York.

NEW YORK, Dec. 19.—Almonds, paper shell, 11@12c; soft shells, 8@9c; apricots, bags, 9@11c; peaches, unpeeled, 7@9c; peeled, 14@15c; prunes, four sizes, nominal 5@5¼; raisins, two-crown, L. M., 4½c; three-crown, 5½c; four-crown, 6½c; London layers, $1 45@1 50; clusters, $1 65@2 00.

NEW YORK, Dec. 22.—Apricots, 9@11c; peaches, peeled, boxes, 14@15c; unpeeled, bags, 7@9c; prunes, four sizes, nominal, 5¼c; raisins, two-crown, 4½c; three-crown, 5½c; four-crown, 6½c; London layers, $1 45; clusters, $1 65@2 00; almonds, paper shell, 11@12c; soft shell, 8@9½c; walnuts, soft shell, 8@9½c; standard, 7½c.

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Patrons of Husbandry.

From Worthy Master Greer.

Each subordinate Grange has been sent a typewritten account of the entire proceedings of the National Grange concerning the Secretaryship of Agriculture, also an account of the farmers' conference held in Washington, D. C., at which meeting J. H. Brigham was endorsed for Secretary of Agriculture, together with blank petitions for those who desire to fill out.

These petitions will be presented together with others to President-elect Wm. H. McKinley by the committee having the matter in charge.

The Patrons of Husbandry are making a great push to have a practical farmer appointed to preside over the Agricultural Department and suggest J. H. Brigham for the place.

The elevation of the Department of Agriculture is largely the work of the Grange, and this department should be presided over by a man in close sympathy with the farmers of the entire country, a practical farmer of broad and liberal views.

An opportunity is now presented for the Patrons of Husbandry of the United States to co-operate and work to secure the object desired.

I have arranged to meet the following appointments so far in January: Glen Ellen, Jan. 5th; Bennett Valley, Jan. 6th; Santa Rosa, Jan. 7th; Two Rock, Jan. 8th; Petaluma, Jan. 9th.

On Saturday, Dec. 12th, I had the pleasure of attending the anniversary exercises of my own Grange. The Sacramento *Record-Union* gives the following account of the meeting:

Sacramento Grange, Patrons of Husbandry, last week celebrated the twentieth anniversary of the National Grange. Owing to the inclemency of the weather many were kept from participating in the exercises.

After a genuine Grangers' repast, the following programme was rendered very effectively: Opening song, by the Grange; address of welcome, by Worthy Master Flint of Sacramento Grange; response, by David Reese of Florin; address, by W. W. Greer, Worthy Master of the State Grange, who has just returned from the session of the National Grange at Washington, D. C. He urged upon the Grange members to unite in their efforts to secure a practical farmer to fill the position of Secretary of Agriculture in the Cabinet of President McKinley. The name of J. H. Brigham, Worthy Master of the National Grange, has been suggested as a suitable person for that position.

Then followed a recitation by Bert Hayden, and a description of a recent visit to Maine, by D. T. Lufkin of Freeport.

Many cheering words were offered by E. Greer, who acted as Worthy Lecturer for the meeting.

Sacramento, Dec. 21, '96. W. W. G.

From Pescadero.

TO THE EDITOR:—Pescadero Grange, Patrons of Husbandry, celebrated the 28th anniversary of the founding of our Order Dec. 4, 1896, by the election of officers and the enjoyment of a feast in the afternoon, with a literary and musical entertainment in the evening followed by a social hop.

Officers to be installed on the first Saturday in January at 2 P. M.

The following are the officers of Pescadero Grange for 1897: Master, C. L. McCracken; Overseer, E. Leighton; Lecturer, I. C. Steele; Steward, Mrs. D. M. Stimpsen; Assissant Steward, May Good; Chaplain, Mrs. Annie Weeks; Treasurer, Geo. Steele; Secretary, Miss Mable Roe; Gatekeeper, Mrs. E. Leighton; Ceres, Miss Ella McCracken; Pomona, Miss Letta Adair; Flora, Miss May Stryker; Lady Assistant Steward, Miss M. O. Leighton.

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* Illustration.

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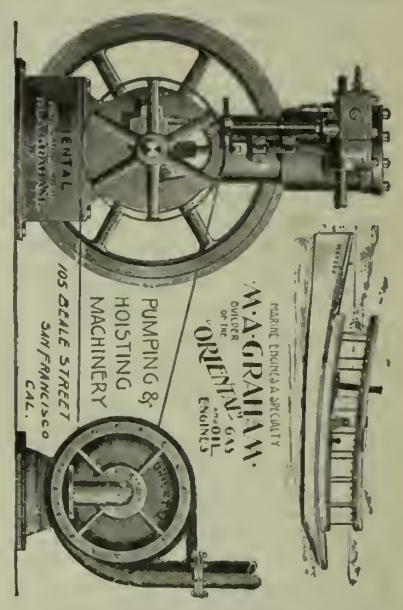

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DIVIDEND NOTICE.

The German Savings and Loan Society,

526 California Street.

For the half year ending December 31, 1896, a dividend has been declared at the rate of four and twenty six hundredths (4 26-100) per cent on Term deposits and three and fifty-five hundredths (3 55-100) per cent on Ordinary deposits, free of taxes, payable on and after Saturday, January 2, 1897.

GEO. TOURNY, Secretary.

DIVIDEND NOTICE.

SAN FRANCISCO SAVINGS UNION,

532 California Street, Corner Webb.

For the half year ending with the 31st of December, 1896, a dividend has been declared at the rate per annum of four and two-tenths (4.2) per cent on Term deposits and three and five-tenths (3.5) per cent on Ordinary deposits, free of taxes, payable on and after Saturday, January 2, 1897.

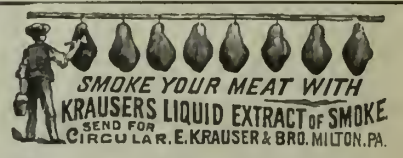
LOVELL WHITE, Cashier.

Notice of Shareholders' Meeting.

The annual meeting of the stockholders of the "Grangers' Bank of California" (a corporation) will be held on TUESDAY, the 12th day of January, 1897, at 1 o'clock P. M., at the office of said Bank in the California Safe Deposit and Trust Co.'s building, corner of California and Montgomery Sts., in the City and County of San Francisco, State of California, for the election of Directors and transaction of such other business as may be submitted for their consideration.

H. M. LARUE, President.

Dated December 9, 1896.



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